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GOVERNMENT CENTRAL MUSEUM,
MADRAS.

CATALOGUE

OF

MINERALS, ORES, AND ROCKS;

WITH

A NOTE ON METEORITES, OF WHICH THE FALL IN SOUTHERN INDIA HAS BEEN RECORDED.

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PREFACE.

THE present catalogue was prepared by Mr. Bosworth Smith when Mineralogist to the Madras Government, and the collections of minerals and rocks in the Madras Museum were, at the same time, re-arranged by him. It is divided into nine sections, viz. :—

I. Miscellaneous collection of minerals used as gems.
II. Minerals of Southern India.
III. Economic minerals used in the manufacture of glass, pottery, earthenware, &c.
IV. Ores and products of Southern India.
V. Miscellaneous collection of ornamental rocks.
VI. Rocks of Southern India.
VII. Quartz of Southern India.
VIII. Marbles, serpentine, and lithographic stones of Southern India.
IX. List of meteorites, of which the fall in Southern India has been recorded.

EDGAR THURSTON,
Superintendent.

GOVERNMENT CENTRAL MUSEUM,
MADRAS, *April* 1890.

ERRATA.

Page 9, No. 102. Jaggayapet is in the Kistna District.
„ 18, „ 288. Virudapati is in the Tinnevelly District.
„ 28, „ 75. Pentapad is in the Godávari District.
„ 33, „ 220, 234. Koilkuntla is in the Kurnool District.
„ 35, „ 272. Atúr is in the Salem District.
„ 41, „ 435. Chetpat is in the North Arcot District.
„ 42, „ 463. Do. do. do.
„ 70, „ 283. Sríharikót is in the Nellore District.
„ 77, „ 450. North Canara belongs to the Bombay Presidency.
„ 78, „ 465. Do. do. do.
„ 83, „ 608. Thuvarangoorichi is in the Trichinopoly District.
„ 83, „ 609. Virudapati is in the Tinnevelly District.

I.—MINERALS USED AS GEMS.

No.	Name of specimen.	Locality.	Remarks.
	ORNAMENTAL STONES.		
1	Rock crystal	New York.	
2	Do. do.	Switzerland.	
3	Do. do.	Kángyam, Coimbatore District ..	Polished specimen.
4	Amethyst	Coimbatore.	
5	Do.	Oberstein.	
6	Do. with Chalcedony	Do.	
7	Do.	Hungary.	
8	Do.	Oberstein.	
9	Crocidolite	South Africa	Polished specimen.
10	Smoky Quartz	Saint Gothard.	
11	Do. do.	Do.	
12	Rose do.	Bavaria.	
13	Agate	Oberstein	Polished specimen.
14	Chalcedony	Iceland.	
15	Plasma	Baden.	
16	Prase	Saxony.	
17	Semi Opal	Hungary.	
18	Opal	Silesia.	
19	Milk Opal	Do.	
20	Fire do.	Mexico.	
21	Royal do.	Hungary.	
22	Prase do.	Silesia.	
23	Cat's eye	Bavaria.	
24	Chalcedony	North India	Polished specimen.
25	Carnelian	Baikalore.	

MINERALS USED AS GEMS—*continued.*

No.	Name of specimen.	Locality.	Remarks.
	ORNAMENTAL STONES—*continued.*		
26	Chrysoprase	Silesia.	
27	Mummy Agate	Pyramids.	
28	Ribbon Jasper	Harz.	
29	Do. do.	Syria	Polished specimen.
30	Jasper	Baden.	
31	Striped Jasper	Germany.	
32	Fortification Agate	North India	Polished specimen.
33	Agate	Oberstein	
34	Do.	Buenos Ayres	
35	Heliotrope	North India.	
36	Do.	Do.	
37	Fossil Wood		Cut specimens.
38	Agate		
39	Onyx		
40	Chalcedony		
41	Jasper		
42	Moss Agate		
43	Carnelian		
44	Spinel	Sweden.	
45	Do.	Ceylon.	
46	Sapphire	The Urals.	
47	Fluorspar	Friberg.	
48	Augite (diopside)	Tyrol.	
49	Olivine	Bohemia.	
50	Schiller-spar	Harz.	
51	Rhodonite	Cornwall.	

52	Iron-garnet	Norway	Cut specimen.
53	Pyrope	Bohemia.	
54	Iron-garnet	Tyrol.	
55	Do.	Kángyam, Coimbatore District.	
56	Cinnamon stone	Piedmont.	
57	Do.	Do.	
58	Idocrase	Norway.	
59	Do.	Vesuvius.	
60	Hyacinth	Ceylon.	
61	Avanturine Felspar (sun-stone) ..	Norway.	
62	Adularia (moon-stone)	Ceylon	Cut specimen.
63	Do. do.	Switzerland.	
64	Do. do.	Do.	
65	Microcline (amazon-stone)	Do.	
66	Do. do.	The Urals.	
67	Labradorite	Do.	
68	Do.	Labrador.	
69	Do.	Do.	
70	Epidote	Tyrol.	
71	Lapis lazuli	North India.	
72	Tourmaline (schorl)	Elba.	
73	Do. do.	Mysore state.	
74	Do. (red and green) ..	Elba.	
75	Kyanite	Italy.	
76	Topaz	Brazil.	
77	Do.	Ceylon.	
78	Sphene	Switzerland.	
79	Natrolite	Bohemia.	
80	Pinite (pagodite)	China	Carved.
81	Serpentine	Silesia.	
82	Statuary limestone	Carrara.	
83	Granular do.	Harz	Polished specimen.

MINERALS USED AS GEMS—*continued.*

No.	Name of specimen.	Locality.	Remarks.
	ORNAMENTAL STONES—*continued.*		
84	Calcite	Saxony.	
85	Aragonite	Steyermach.	
86	Malachite	The Urals.	
87	Anhydrite	Neckar.	
88	Gypsum	Khuringil.	
89	Turquoise	Persia.	
90	Porphyritic Felsite	Saxony.	
91	Verde-antique	Corsica.	
92	Malachite	Burra Burra mines, South Australia.	

II.—MINERALS OF SOUTHERN INDIA.

No.	Name of specimen.	Locality.	Remarks.
		GANJAM DISTRICT.	
1	Agate	Ganjam District	Rolled pebbles.
2	Do.	Do.	Cut specimen.
3	Steatite	Do.	
		VIZAGAPATAM DISTRICT.	
4	Graphite	Vizagapatam District	With schorl in granite.
5	Do.	Vizianagrum, Vizagapatam District.	Impure and earthy.
6	Do.	Vizagapatam District	Powder.
7	Do.	Bimlipatam, Vizagapatam District ..	Do.
8	Do.	Vizagapatam District	With fibrous structure.
9	Do.	Bimlipatam, Vizagapatam District.	
10	Do.	Golgonda Hills, do. ..	Impure and gritty.
11	Flint	Vizagapatam, do. ..	In chalk.
12	Do.	Do. do. ..	Do.
13	Muscovite (Potash mica)	Bimlipatam, do. ..	Portion of a crystal.
14	Biotite (black mica)	Do. do.	
		GODÁVARI DISTRICT.	
15	Corundum	Hills near Rajahmundry, Godávari District.	Blue specimen.
16	Chalcedony	Ganapavaram, do. ..	With cast of spathic iron ore.
17	Chalcedony and Agate	Rajahmundry, do. ..	With cavities.
18	Brown Jasper	Do. do.	
19	Jasper Hornstone	Do. do.	

No.	Name of specimen.	Locality.	Remarks.
		GODÁVARI DISTRICT—*continued.*	
20	Limonite (brown Hæmatite) ..	Hill at Rajahmundry, Godávari Dist.	
21	Do. do.	Do. do.	
22	Do. do.	Do. do. ..	Mammillary.
23	Do. do.	Do. do. ..	Do.
24	Do. do.	Do. do. ..	Mammillary, botryoidal, and stalactitic.
25	Coal shale	Kota, Godávari District	Stalactitic.
		KISTNA DISTRICT.	
26	Quartz	Narsaraopet, Kistna District.	
27	Amethyst	Kistna District	Large pyramidal crystal.
28	Do.	Do.	Showing oscillatory crystalization.
29	Agate	Masulipatam, Kistna District ..	Cut specimen, bluish white.
30	Do.	Do. do. ..	Cut specimen, yellowish fortification.
31	Do.	Do. do. ..	Cut specimen, white fortification.
32	Do.	Do. do. ..	Do. do.
33	Do.	Do. do. ..	Do. do.
34	Do.	Do. do. ..	Rolled pebbles.
35	Do.	Do. do.	
36	Do.	Do. do.	
37	Do.	Do. do.	
38	Do.	Do. do. ..	Cut specimen (greenish).
39	Carnelian	Do. do. ..	Cut specimen.
40	Hornstone	Do. do. ..	Breciated.
41	Jasper	Do. do. ..	Red.
42	Do.	Do. do. ..	Yellow.
43	Do.	Do. do. ..	Cut specimen with strings of chalcedony.
44	Hæmatite	Guntúr, do. ..	Siliceous.

45	Magnetite (pseudomorph after pyrite).	Do. do. ..	Broken cubes.
46	Do. do. ..	Do. do. ..	Large cubes.
47	Do. do. ..	Do. do. ..	Small cubes.
48	Malachite with grey copper ore ..	Do. do.	
49	Iron-garnet	Do. do. ..	Dodecahedra.
50	Muscovite (Potash mica).		
51	Calcite	A garden at Guntúr, do. ..	Nearly transparent.
52	Do.	Do. do. ..	With crystals of magnetite.
53	Do.	Masulipatam, do. ..	Granular, pale olive color, containing pyrite.
54	Do.	Do. do. ..	Do. do.
55	Do.	Gurajalu, do.	
56	Do.	Do. do. ..	Do. do.
57	Siderite	Masulipatam, do. ..	Do. do.

NELLORE DISTRICT.

58	Staurolite	Nellore District.	
59	Chalcacite	Nellore copper mines, Nellore Dist..	Stained with malachite.
60	Yellow Quartz	Nellore, do.	
61	Iron-garnet	Do. do.	
62	Do.	Do. do. ..	In garnet rock.
63	Muscovite (Potash mica)	do.	
64	Tourmaline (schorl)	Nellore copper mines, do. ..	In granite.
65	Kyanite	Saidápuram, do. ..	Slightly rolled.
66	Calcite	Nellore, do.	
67	Malachite	Nellore copper mines, do. ..	On chalcacite.
68	Do.	Do. do. ..	Do.
69	Malachite and Azurite	Do. do. ..	Do.
70	Azurite	Do. do. ..	A thin superficial blue crust.
71	Native copper	Garimanapenta, Kávali Taluk, do.	

MINERALS OF SOUTHERN INDIA—*continued.*

No.	Name of specimen.	Locality.	Remarks.
		KURNOOL DISTRICT.	
72	Diamond	Banganapalle mines, Kurnool District.	One crystal octahedron; small crystal combination of regular dodecahedron and cube, one cleavage.
73	....	Kurnool District.	
74	Hæmatite (micaceous iron ore) ..	Hills in the Rámallakót Taluk, between Kurnool and Gooty.	
75	Do. do. ..	Do. do.	
76	Pyrolucite	Kurnool District	Dendritic markings on the lithographic stone of Kurnool (a magnesium limestone).
77	Jasper	Do.	
78	Do.	Do.	
79	Malachite and Azurite	Do.	Superficial layer.
80	Barite (heavy spar)	Kurnool, Kurnool District.	
81	Steatite (soapstone)	Do. do.	Used as lithographic stone, and as a building material.
82	Potstone (impure serpentine) ..	A chalk pit between Adoni and Kurnool.	Used as lithographic stone.
82	Serpentine	Zorapore, Kurnool District ..	Containing calcite.

84	Gold sand	Konanahalli ?, Bellary District ..	Washed from a nullah near the village.
85	Quartz	Green hills near Nemakallu, Bellary District.	Probably a quartzite colored by chlorite.
86	Amethyst	Bellary District	A crystal with a dark circular core.
87	Amethystine Quartz	Sandúr range of hills near Bellary, Bellary District.	
88	Striped Jasper	Bellary, Bellary District	From the Dharwar series.
89	Do.	Do. do.	Cut specimen.
90	Do.	Do. do.	Do.
91	Do.	Do. do.	Do.
92	Hæmatite	Rámandrug and neighbouring hills.	Very impure.
93	Do.	Do. do. ..	Do.
94	Do. (clay iron stone)	Bellary District.	
95	Limonite	Rámandrug and neighbouring hills.	Mammillary.
96	Do.	Do. do. ..	Fibrous.
97	Do.	Do. do. ..	Mammillary.
98	Göthite	Do. do. ..	Botryoidal.
99	Epidote	Bellary District.	
100	Do.	Do.	
101	Kyanite	Do.	
102	Calcite (granular limestone) ..	Jaggayapet	A bluish grey color used for building, sculpture, and lithography.
103	Do.	Bellary District.	
104	Do.	Do.	Fibrous.
105	Travertine	Do.	Recent, with impressions of leaves.
106	Dolomite	Do.	Impure, light green.
107	Do.	Do.	White.
108	Malachite	Do.	Green veins through hornblende rock.
109	Do.	Do.	
110	Barite	Do.	

MINERALS OF SOUTHERN INDIA—*continued.*

No.	Name of specimen.	Locality.	Remarks.
		BELLARY DISTRICT—*continued.*	
111	Talc	Bellary, Bellary District	Talcose schist.
112	Baltimorite	Rayalcheru, Anantapúr District.	
113	Serpentine	Bellary, Bellary District.	
114	Steatite	Do. do.	
		ANANTAPUR DISTRICT.	
115	Diamond (model)	Waji Karur, Anantapúr District ..	Found near the Waji Karur mines.
116	Quartz	Singanamallai Tank, do.	
117	Epidote	Waji Karur, do.	
118	Calcite	Do. do.	
		CUDDAPAH DISTRICT.	
119	Pyrite	Nullamallai Hills, Cuddapah District	From the black limestone.
120	Do.	Pushpagiri, do.	
121	Galena	Jangamrázupalli, do. ..	From the old native mines.
122	Do.	From the bank of the Pennair-Chennúr, near Cuddapah.	
123	Do.	North of Cuddapah District.	
124	Magnetite	Cuddapah District	Octahedron in quartzite.
125	Hæmatite	Kanamalapalli, near Cuddapah ..	Very siliceous.
126	Rock crystal	Chennúr, Cuddapah.	

127	Quartz	Kadiri Taluk, Cuddapah District ..	From big reefs running east and west, five miles north of Talapoola.
128	Do.	Sidhavatam, do.	
129	Do.	Nullamallai Hills, do. ..	Cat's eye. The vendor stated that cat's eye is to be obtained from the Nallamallai range of hills beyond Cuddapah, and that information regarding them may be had at the village of Nullakonda Sal by asking there regarding Pashanum Kulloo of the Upparavadoo periperitinna cari, and that such stones are said to be carried from thence to the village of Kálipet on this side of Naidupet near Nellore, and near Goomerakonda beyond Venkatagiri, and there worked up.
130	Chert	Jangamrázupalli, do. ..	See page 161 of Mem. Geol. Survey of India, Vol. VIII, Part I.
131	Do.	Vempalli, do. ..	Do. do.
132	Chalcedony	Kottapalle, do. ..	Enclosing calc-spar, which has in places been dissolved away; empty casts of the rhombs of calcite.
133	Jasper	Cuddapah District	Cut specimen.
134	Striped Jasper	Diamond mines, Cuddapah District.	From the Dharwar series.
135	Do.	Do. do. ..	Do.
136	Epidote	Kottapalle, do.	
137	Do.	Vempalli, Cuddapah District.	
138	Schorl	Tállapúla, do.	
139	Calcite	Kottapalle, do.	

No.	Name of specimen.	Locality.	Remarks.
		CUDDAPAH DISTRICT—*continued.*	
140	Calcite	Cuddapah District	Violet.
141	Do. (kunkur)	Banks of the Pápaghni, Cuddapah District.	Cementing grains of quartz.
142	Do. do.	Cuddapah, Cuddapah District.	
143	Barite (heavy spar)	Sidhavatam, do.	
144	Talc	Cuddapah District.	
145	Serpentine (calcareous)	Do.	
		MADRAS AND CHINGLEPUT DISTRICTS.	
146	Hæmatite (clay iron ore)	Vandalúr, Chingleput District.	
147	Tabasheer	Sold in Madras	Calcined.
148	Do.	Do.	
149	Selenite (gypsum)	Red Hills	From a bed of grey marl.
		NORTH ARCOT DISTRICT.	
150	Hæmatite	North Arcot District	A very ferruginous quartzite.
151	Hornblende	Palmanér, North Arcot District ..	Hornblende rock.
152	Steatite (soapstone)	North Arcot District.	
		SOUTH ARCOT DISTRICT.	
153	Gold	South Arcot District	Washed by natives.
154	Graphite	Cuddalore, South Arcot District ..	A thin streak of the mineral in quartz.

155	Hæmatite	Do. do. ..	With bronzite.
156	Do.	Do. do. ..	A ferruginous laterite.
157	Selenite (gypsum)	Do. do.	

Salem District.

158	Chromite	Chalk Hills near Salem, Salem District.	From the veins of magnetite.
159	Do.	Do. do. ..	
160	Do.	Do. do. ..	
161	Magnetite	Periyúr, Salem District	Exhibiting polarity.
162	Do.	Salem District	In octahedra.
163	Corundum	Do.	Whitish.
164	Do.	Do.	Rounded.
165	Do.	Do.	Angular.
166	Do.	Do.	Showing roughly the crystalline form (hexagonal pyramid).
167	Do.	Do.	
168	Do.	Sólasirámani, Salem District.	
169	Do.	Kavandampatti, do.	
170	Do.	Do. do.	
171	Do.	Do. do.	
172	Do.	Do. do.	
173	Do.	Do. do.	
174	Do.	Do. do.	
175	Do.	Yelagiri Hills, do. ..	Easily cleaved.
176	Do.	Sólasirámani, do. ..	In decomposing gneiss (kaolin).
177	Opal	Yelagiri Hills, do.	
178	Do.	Do. do.	
179	Beryl	Salem District ?	Said to be found near Salem, but more probably from Coimbatore District.

No.	Name of specimen.	Locality.	Remarks.
		SALEM DISTRICT—*continued.*	
180	Iron-garnet	Salem District	Massive.
181	Do.	Do.	Do.
182	Biotite (black mica)	Kandikuppam, Salem District.	
183	Albite	Idappadi, 30 miles west of Salem.	
184	Do.	Do. do.	
185	Indianite (anorthite)	Near old gold working, Burgur ..	Shows microcline structure under microscope.
186	Epidote	Burgur.	
187	Calcite	Sankaridrug, Salem District.	
188	Do.	Do. do.	
189	Do.	Do. do.	
190	Do. (kunkur)	Tirupatúr, do. ..	Imbedding recent land shells (Helix).
191	Magnesite	Chalk Hills, Salem District.	
192	Baltimorite (fibrous serpentine) ..	Salem District.	
193	Do. do. ..	Do.	
194	Natrolite	Do.	
195	Talc	Pakkanadu.	
196	Steatite (soapstone)	Idappadi.	
197	Do. do.	Do.	

	Coimbatore District.		
198	Magnetite	Coimbatore District	Very pure.
199	Do.	Do.	Exhibiting polarity. See top left-hand corner of specimen.
200	Corundum	Banks of the Cauvery, Coimbatore District.	
201	Do.	Gopichettipálaiyam, do. ..	Slightly rolled.
202	Hornstone	Karúr, do.	
203	Beryl (aquamarine)	Kángyam, do. ..	A hexagonal crystal, and a cut specimen.
204	Orthoclase (potash felspar)	Do. do. ..	Close to a beryl mine.
205	Albite	Do. do. ..	
206	Calcite	Mettupálaiyam, do.	
207	Travertine	Konamallai-Bolampatti valley ..	Found near a warm spring.
208	Steatite (soapstone)	Mettupaláiyam, do.	
209	Chlorite	Coimbatore District.	
	South Canara District.		
210	Gold (sand)	Mangalore, South Canara District ..	Magnetite iron sand.
211	Heliotrope	Bekal, do.	
	Malabar District.		
212	Magnetite	Near Beypore, Malabar District ..	Containing large crystals of quartz.
213	Do.	Do. do. ..	Exhibiting roughly the crystalline form (octahedron).
214	Do.	Do. do.	
215	Garnet	Malabar District.	
216	Do.	Do.	
217	Do.	Varakkal, Malabar District ..	Massive.
218	Ligneous shale	Beypore river, Calicut, do.	

No.	Name of specimen.	Locality.	Remarks.
		Nílgiri District.	
219	Gold	Wynaad, Nílgiri District	Hamlin's reef.
220	Do.	Do. do.	Do.
221	Do.	Do. do.	Wright's level.
222	Do.	Do. do.	Buttons of gold washed out by Kurumbars from reef on Bolingbroke estate.
223	Chalcopyrite	Do. do.	From Rose dell reef.
224	Do.	Ilithorai, do.	From Ilithorai reef near Kótagiri.
225	Do.	Sígúr Ghát, do.	Stained on the surface with azurite.
226	Pyrite	Pundalúr, South-East Wynaad, Nílgiri District.	
227	Galena	Ilithorai, Nílgiri District ..	From the Ilithorai reef near Kótagiri.
228	Do.	Do. do. ..	
229	Magnetite	Dodabetta, do.	
230	Do.	Near Ootacamund, do. ..	Impure.
231	Do.	The lake, Ootacamund, do.	
232	Limonite	Near Ootacamund, do.	
233	Do.	South Downs, Nílgiris, do.	
234	Do.	Nanjanád valley, do.	
235	Do.	Near Ootacamund, do. ..	Stalactitic.
236	Do.	Nílgiris, do. ..	Pisa form.
237	Do.	Do. do. ..	
238	Hæmatite (laterite)	North of Ootacamund, do.	
239	Limonite (do.)	Do. do.	
240	Quartz	Nanjanád valley, do.	
241	Do.	Kótagiri Road, Coonoor, do.	

242	Series of impure Kaolins, near Ootacamund, Nílgiri District— (1) Whitish. (2) Yellowish white. (3) Pinkish white. (4) Light yellow. (5) Light red. (6) Yellow. (7) Yellowish. (8) Red.		
243	Ligneous clay	Nílgiri District	Very small proportion of organic matter.
244	Do.	Ootacamund, Nílgiri District ..	Do. do.
245	Peat	Near Ootacamund, do.	
		TRICHINOPOLY DISTRICT.	
246	Rock crystal	Manapárai, Trichinopoly District.	
247	Epidote (with Prehnite)	Do. do.	
248	Tourmaline (schorl)	Do. do.	
249	Do.	Do. do. ..	In calcite.
250	Coccolite (granular augite) ..	Sittapatti and Manapárai, Trichinopoly District.	With chlorite in calcite.
251			
252	Microcline	Manapárai, Trichinopoly District.	
253	Oligoclase	Do. do.	
254	Albite	Do. do. ..	Imbedding quartz.
255	Do.	Do. do. ..	Imbedding biotite.
256	Do.	Do. do. ..	Do.
257	Prehnite	Do. do. ..	Imbedding epidote.
258	Do.	Do. do. ..	Imbedding epidote and quartz crystals..
259	Do.	Do. do. ..	One specimen botryoidal, one showing crystalline form.
260	Calcite	Ammápet, near Trichinopoly,	Imbedding chlorite.
261		Trichinopoly District.	
262	Do.	Manapárai, Trichinopoly District.	
263	Do.	Do. do.	
264	Do.	Do. do.	
265	Gypsum	Trichinopoly, do.	
266	Talc	Manapárai, do. ..	On albite.
267	Baltimorite (fibrous Serpentine) ..	Do. do.	
268	Do. do. ..	Do. do.	

No.	Name of specimen.	Locality.	Remarks.
		TANJORE DISTRICT.	
269	Sulphur	Tirumulavasal, coast of Tanjore District.	Found in sandy ground, when excavating a canal.
270	Graphite	Tirupuvanum, Tanjore District.	
271	Rock crystal	Vallam, do. ..	Vallam stones.
272	Do.	Do. do. ..	Do.
273	Smoky Quartz	Tanjore District	Portion of a large crystal.
274	Do.	Vallam, Tanjore District.	
275	Amethyst	Do. do. ..	Probably a Coimbatore stone.
		MADURA DISTRICT.	
276	Graphite	Madura District.	
277	Do.	Do.	
278	Pyrite	Palni Hills, Madura District.	
279	Corundum	Madura District.	
280	Quartz (on Opal)	Do.	The lining of a drusey cavity.
281	Rose Quartz	Do.	One cut specimen.
282	Do.	Do.	
283	Do.	Do.	
284	Rock crystal	Do.	
285	Smoky Quartz	Do.	
286	Vein do.	Do.	
287	Opal	Madura, Madura District.	
288	Sagenitic Quartz	Do. do.	
		Virudupati, do.	Containing small acicular crystals of tourmaline.

289	Opal	Palni hills, do.	Wood opal.
290	Do.	Do. do.	A banded variety with chlor-opal.
291	Chalcedony (with Jasper and Agate).	Madura District	Polished specimen.
292	Do. do. ..	Do.	Spongy.
293	Do.	Do.	Running through fissures in a sandy rock.
294	Jaspery Chert	Do.	Brown.
295	Do.	Do.	Black.
296	Jasper	Do.	Broken pebbles.
297	Do.	Do.	Dark red.
298	Chlor-opal	Do.	
299	Cocholong	Do.	
300	Magnetite	Sholavandán, Madura District ..	Polar.
301	Do.	Do. do.	
302	Do.	Do. do.	
303	Do.	Pasumalai, do. ..	Contains hæmatite.
304	Limonite	Pudakudi, do. ..	Mammillary.
305	Do.	Pasumalai, do.	
306	Do.	Palni Hills, do.	
307	Do.	Pudakudi, do. ..	Containing a large percentage of silica.
308	Hornblende	Madura District.	
309	Do.	Do.	
310	Do.	Do.	
311	Coccolite	Do.	
312	Garnet	Do.	
313	Do.	Periyakulam, Madura District.	
314	Do.	Madura, do. ..	In dodecahedra.
315	Do.	Do. do. ..	Massive.
316	Epidote	Madura District? ..	On prehnite.
317	Muscovite (potash Mica)	Sirumalai, do.	
318	Talc	Madura, do.	
319	Talc and Mica	Do. do.	
320	Felspar (Orthoclase)	Do. do.	

No.	Name of specimen.	Locality.	Remarks.
		MADURA DISTRICT—*continued.*	
321	Felspar (Orthoclase)	Madura, Madura District.	
322	Felspar (andularia)	Tirumangalam, Madura District.	
323	Do. do.	Do. do.	
324	Felspar (microcline)	Madura District.	
325	Do. do.	Do.	
326	Felspar (albite)	Do.	
327	Do. do.	Do.	
328	Do. do.	Do.	
329	Felspar (labradorite)	Kattupattimalai, ? Madura District.	
330	Do. do.	Do. do.	
331	Do. do.	Do. do.	
332	Tourmaline (schorl)	Madura District.	
333	Do. do.	Do.	
334	Prehnite	Madura, Madura District	Containing epidote.
335	Pinite	Boundary between Madura and Trichinopoly Districts.	On albite.
336	Calcite	Madura District.	
337	Do.	Do.	
338	Do. (kunkur)	Pálmédu, Madura District.	
339	Do. do.	Do. do.	
340	Travertine	Madura District ?	
341	Magnesite	Do.	
342	Malachite	Do.	
343	Barite (heavy-spar)	Do.	
344	Gypsum	Do.	
345	Do.	Do.	

346	Selenite	Do.	
347	Steatite (soapstone)	Pasumalai, Madura District.	
348	Do. do.	Kosakulam, ? do.	
349	Do. do.	Madura District. ..	Superficial glaze.
350	Serpentine	Do.	
		TINNEVELLY DISTRICT.	
351	Quartz and Limonite	Puvandipuram, Tinnevelly District.	
352	Calcite	Do. do.	
353	Do.	Do. do.	
354	Do.	Do. do.	
355	Do.	Do. do. ..	Containing mica.
356	Barite (heavy-spar)	Do. do.	
		TRAVANCORE DISTRICT.	
357	Gold sand	Quilon, Travancore.	
358	Do.	Do. do.	
359	Do.	Do. do.	
360	Do.	Do. do.	
361	Corundum	Travancore	In calcite.
362	Jasper	Do.	Cut specimen.
363	Tourmaline (schorl)	Do.	
364	Epidote	Do.	
365	Calcite	Do.	White limestone.
366	Do.	Do.	Pink do.
367	Bitumen	Do.	
		NIZAM'S DOMINIONS.	
368	Rock crystal	Hyderabad, Nizam's Dominions.	
369	Do.	Deccan Trap, do. ..	Drusey cavity.
370	Do.	Hyderabad, do.	

MINERALS OF SOUTHERN INDIA—*continued.*

No.	Name of specimen.	Locality.	Remarks.
		NIZAM'S DOMINIONS—*continued.*	
371	Rock crystal	Hyderabad, Nizam's Dominions.	
372	Smoky Quartz	Do. do.	
373	Amethystine Quartz	Chíta Rocks, Bolarum, Nizam's Dominions.	
374	Do.	Deccan Trap, Nizam's Dominions ..	Drusey cavity.
375	Do.	Do. do. ..	Do.
376	Do.	Secunderabad, do. ..	With a dark violet core.
377	Do.	Do. do.	
378	Do.	Chíta Rocks, Bolarum, Nizam's Dominions.	
379	Chalcedony	Hyderabad, Nizam's Dominions ..	With green jaspery material.
380	Do.	Do. do. ..	Stalactitic.
381	Do.	Golkunda, do. ..	Botryoidal and mammillary.
382	Do.	Deccan Trap, do. ..	Polished specimen.
383	Do.	Nizam's Dominions.	
384	Carnelian	Golcondah, do. ..	Cut specimen.
385	Opal	Chikalda tank, do. ..	With agate and chalcedony.
386	Do.	Deccan Trap, do. ..	With agate, chalcedony, and amethyst.
387	Do.	Secunderabad, do. ..	Cementing a breccia of amethyst.
388	Wood Opal	Do. do.	
389	Agate	Near Secunderabad, do. ..	Cut specimen.
390	Chert	Sassanal, do. ..	From veins in chlorite schist.
391	Variegated Jasper	Secunderabad, do. ..	Polished specimen.
392	Red Jasper	Nizam's Dominions.	
393	Do.	Do.	
394	Heliotrope (bloodstone)	Hyderabad, do.	

395	Clay iron ore	Do. do.	
396	Garnet	Mypur, 8 miles from Secunderabad, Nizam's Dominions.	In talc schist.
397	Muscovite (potash mica)	Hyderabad, Nizam's Dominions.	
398	Tourmaline (schorl)	Do. do.	
399	Calcite	Deccan Trap, do. ..	In a drusey cavity surrounded by quartz and chalcedony.
400	Do.	Secunderabad, do.	
401	Talc	Hyderabad, do. ..	Pale grass-green color.
402	Zeolite (Thomsonite)	Deccan Trap, do.	
403	Do.	Do. do.	
404	Do. (Natrolite)	Do. do.	
405	Do.	Do. do.	
406	Do. (Chabasite)	Do. do.	
407	Do.	Do. do.	
408	Do. (Mesolite)	Do. do.	
409	Do. (Stilbite)	Do. do.	
410	Do.	Do. do.	
411	Do.	Do. do.	
412	Do.	Do. do.	
413	Do	Do. do.	
414	Do.	Do. do.	
415	Do.	Do. do.	
416	Do.	Do. do.	
	Mysore Territory.		
417	Gold (auriferous quartz)	Kolar Gold Fields, Mysore Province.	
418	Do. do.	Do. do.	
419	Do. do.	Do. do.	
420	Do.	Bangalore, do.	
421	Corundum	Mysore, do.	

No.	Name of specimen.	Locality.	Remarks.
		MYSORE TERRITORY—*continued.*	
422	Corundum	Hunsúr, Mysore Province.	
423	Do.	Kamasamudram, do.	Very pure.
424	Magnetite	Mysore, do.	In octahedra.
425	Hæmatite (pseudomorph after pyrite).	Chittaldroog, do.	
426	Rock crystal	Whitefield, near Bangalore, do.	Washed out of the kaolin.
427	Do.	Tumkúr, do.	
428	Actinolite	Nimpapúr, do.	
429	Hornblende	Near Kolar Gold Fields, do.	
430	Garnet	Kempkal, near Manjarabad Ghát, Mysore Province.	
431	Do.	Mysore, do.	
432	Do.	Malur, do.	
433	Do.	Do. do.	
434	Epidote	Seringapatam, do.	
435	Muscovite (potash mica)	Mysore, do.	
436	Gypsum	Bangalore, ? do.	Probably from the bazaar.
437	Do.	Do. do.	Do.
438	Calcite	Mysore, do.	Covered with chalcedony.
439	Talc	Do. do.	Green.
440	Mica (biotite)	Do. do.	
441	Steatite (soapstone)	Hunsúr, do.	
442	Do.	Near Kolar, do.	

III.—ORES AND PRODUCTS OF SOUTHERN INDIA.

No.	Name of specimen.	Locality.	District.
		GANJAM DISTRICT.	
1	Hæmatite	Boad	Ganjam District.
2	Limonite	Chegutty	
3	Do.		
4	Do.		
5	Iron smelted and forged	Boad	
6	Do.	Ganjam	
7	Steel bar		
8	Do.		
		VIZAGAPATAM DISTRICT.	
9	Magnetite	Vizagapatam	Vizagapatam District.
10	Do.	Vizianagrum	
11	Do.	Do.	
12	Hæmatite	Vizagapatam District	
13	Do.	Do.	
14	Do.	Bonangi	
15	Do.	Do.	
16	Limonite	Do.	
17	Do.	Sálúr Taluk	
18	Do.	Do.	
19	Do.	Muthum	
20	Do.	Bonangi	
21	Do.	Do.	
22	Do.	Vizagapatam	

No.	Name of specimen.	Locality.	District.
		VIZAGAPATAM DISTRICT—*continued.*	
23	"Bloom" of Iron	Sálúr Taluk	Vizagapatam District.
24	Do.	Sarvasiddhi Taluk	
25	Do.	Vizagapatam District	
26	Do.	Sálúr Taluk	
27	Do.	Bonangi	
28	Do.	Vizagapatam District	
29	Do.	Do.	
30	Do.	Parvalipur Taluk	
31	Iron smelted and hammered ..	Vizagapatam	
32	Do. ..	Parvalipur Taluk	
33	Do. ..	Bonangi	
34	Do. ..	Sálúr Taluk	
35	Do. ..	Bonangi	
36	Do. ..	Sálúr Taluk	
37	Iron slag	Vizianagrum	
38	Do.	Sálúr Taluk	
39	Manganese ore	Bimlipatam	
40	Do.	Do.	
41	Do.	Do.	
42	Magnetite	Do.	
		GODÁVARI DISTRICT.	
43	Pyrite	Pangadi	
44	Magnetite	Do.	

45	Hæmatite	Rajamundry	Godávari District.
46	Do.	Do.	
47	Do.	Do.	
48	Limonite	Do.	
49	Do.	Do.	
50	Do.	Do.	
51	"Bloom" of Iron	Do.	
52	Do.	Do.	
53	Iron bar	Do.	

KISTNA DISTRICT.

54	Hæmatite	Masulipatam	Kistna District.
55	Do.	Do.	
56	Do.	Do.	
57	Do.	Tiruvúr	
58	Do.	Do.	
59	Do.	Between Surepalli and Somavaram.	
60	Do.	Mailavaram	
61	Limonite	Masulipatam	
62	Do.	Between Rámanakkapet and Chittapore.	
63	Do.	Rámanakkapet	
64	Do.	Kistna District	
65	Do.	Janardhanapuram	
66	Do.	Chimalapád hills	
67	Iron bar	Tiruvúr	
68	Do.	Do.	
69	"Bloom" of Iron	Masulipatam	
70	Do.	Do.	
71	Do.	Kistna District	

ORES AND PRODUCTS OF SOUTHERN INDIA—*continued.*

No.	Name of specimen.	Locality.	District.
		KISTNA DISTRICT—*continued.*	
72	"Bloom" of Iron	Rámanakkapet	Kistna District.
73	Do.	Jaggayapet	
74	Iron bar	Masulipatam	
75	Do.	Pentapad	
76	Göthite after pyrite	Guntúr	
77	Do.	Gurajalu	
78	Do.	Guntúr	
79	Iron sand	Kistna District	
80	Magnetite	Do.	
81	Do.	Guntúr	
82	Hæmatite	Do.	
83	Do.	Tumurkota	
84	Do.	Do.	
85	Do.	Kistna District	
86	Limonite	Guntúr	
87	Do.	Do.	
88	Do.	Do.	
89	Do.	Do	
90	Do.	Guttikonda	
91	Do.	Kistna District	
92	Do.	Guntúr	
93	Do.	Dáchepalle	
94	"Bloom" of Iron	Kistna District	
95	Iron smelted from above	Do.	
96	"Bloom" of Iron	Guttikonda	
97	Iron smelted from above	Do.	

98	Do.	Do.		
99	"Bloom" of Iron	Tumurkota		
100	Iron smelted from above	Do.		
101	Do.	Do.		
102	"Bloom" of Iron	Guttikonda		
103	Do.	Do.		
104	Iron smelted from above	Do.		
105	Do.	Do.		
106	Iron bar	Rentachintala		
		Nellore District.		
107	Iron sand	Nellore	Nellore District.	
108	Do.	Chundi Division		
109	Do.	Nellore		
110	Do.	Chundi Division		
111	Hæmatite	Ongole		
112	Do.	Do.		
113	Do.	Do.		
114	Do.	Nellore		
115	Limonite	Ongole		
116	Do.	Do.		
117	Do.	Do.		
118	Iron smelted and forged	Venkatagiri Division		
119	Do.	Udayagiri Division		
120	Do.	Nellore District		
121	Do.	Chundi Division		
		Kurnool District.		
122	Galena	Kurnool	Kurnool District.	
123	Do.	Do		
124	Do.	Do.		

ORES AND PRODUCTS OF SOUTHERN INDIA—*continued.*

No.	Name of specimen.	Locality.	District.
		KURNOOL DISTRICT—*continued.*	
125	Galena	Kurnool	Kurnool District.
126	Do.	Do.	
127	Do.	Do.	
128	Do.	Do.	
129	Magnetite	Do.	
130	Do.	Dhoni Taluk	
131	Iron "bloom"	Kurnool	
132	Bar iron	Do.	
		BELLARY DISTRICT.	
133	Iron sand	Bellary District	
134	Do.	Do.	
135	Do.	Bacheapalli	
136	Do.	Bellary District	
137	Do.	Do.	
138	Do.	Do.	
139	Do.	Do.	
140	Do.	Do.	
141	Do.	Dharmapuri	
142	Do.	Pujarihalli	
143	Do.	Bellary District	
144	Do.	Do.	
145	Do.	Do.	
146	Do.	Do.	
147	Do.	Do.	

148	Do.	Yerraguntla	Bellary District.
149	Hæmatite	Sunkalamakonda	
150	Do.	Minchéri	
151	Do.	Sindigéri	
152	Do.	Shanavaspuram	
153	Do.	Copper mountain, near Bellary	
154	Do.	Avinamadugu	
155	Do.	Holalagundi	
156	Do.	Copper mountain near Bellary	
157	Do.	Do.	
158	Do.	Sandúr hill	
159	Do.	Sandúr valley	
160	Do.	Copper mountain near Bellary	
161	Do.	Sandúr	
162	Limonite	Bellary	
163	Do.	Sandúr	
164	Do.	Kallahalli	
165	Do.	Huvinahadgali Taluk	
166	Do.	Harpanahalli	
167	Iron ore roasted	Kúdligi Taluk	
168	Do.	Bellary	
169	Do.	Do.	
170	Do.	Bellary District	
171	Do.	Sandúr	
172	Do.	Do.	
173	Do.	Appianahalli	
174	Do.	Sandúr	
175	Do.	Komarasawmi hill, near Bellary	
176	Do.	Do.	
177	Do.	Chilakanahatti	
178	Do.	Kamalapur	
179	Do.	Bellary District	

No.	Name of specimen.	Locality.	District.
		BELLARY DISTRICT—*continued.*	
180	Iron ore roasted	Near Sandúr	Bellary District.
181	Do.	Bellary District	
182	Do.	Bettadamallapanagudda	
183	Do.	Jumbunathanahalli	
184	Do.	Kallahalli	
185	Do	Kamalápur	
186	Do.	Do.	
187	Do.	Tyágadahalli	
188	Iron smelted and forged	Kallahalli	
189	Do.	Do.	
190	"Bloom" of Iron	Do.	
191	Do.	Bellary District	
192	Do.	Kámalápur	
193	Iron bar from above	Do.	
194	Do.	Do.	
195	Iron slag from above	Do.	
196	"Bloom" of Iron	Bellary	
197	Do.	Tyágadahalli	
198	Iron smelted and forged	Kámalápur	
199	Do.	Bellary District	
200	Iron bar	Sandúr	
201	Iron smelted and forged	Bellary	
202	Do.	Kúdligi	
203	Do.	Do.	
204	Do.	Bellary District	
205	Wootz	Do.	

206	Pyrite	Cuddapah District	Cuddapah District.
207	Göthite—pseudomorph after pyrite .	Do.	
208	Magnetite	Erraguntlakota	
209	Iron sand	Cuddapah District	
210	Do.	Gurramkonda	
211	Do.	Do.	
212	Do.	Cuddapah District	
213	Magnetite	Do.	
214	Do.	Do.	
215	Hæmatite	Kamalapalli	
216	Do.	Cuddapah District	
217	Do.	Do.	
218	Do.	Do.	
219	Do.	Pendlimarri hills	
220	Do.	Koilkuntla	
221	Do.	Cuddapah District	
222	Do.	Do.	
223	Do.	Dasaripalli	
224	Do.	Do.	
225	Do.	Bandikanama	
226	Do.	Cuddapah District	
227	Do.	Arapayakanama	
228	Do.	Cuddapah District	
229	Do.	Pálkonda	
230	Limonite	Lunkamalla	
231	Do.	Do.	
232	Do.	Cuddapah District	
233	Do.	Krishnamakonda	
234	Do.	Koilkuntla	
235	" Bloom " of Iron	Erraguntlakota	

ORES AND PRODUCTS OF SOUTHERN INDIA—*continued.*

No.	Name of specimen.	Locality:	District.
		CUDDAPAH DISTRICT—*continued.*	
236	"Bloom" of Iron	Badvél	Cuddapah District.
237	Iron smelted from above	Do.	
238	"Bloom" of Iron	Erraguntlakota	
239	Iron smelted from above	Do.	
240	Do.	Badvél	
		NORTH ARCOT DISTRICT.	
241	Iron sand	Satghur	
242	Do.	Vellore	
243	Do.	Nalagarree	
244	Do.	Kangundi Division	
245	Do.	Nayanooroo	
246	Do.	Nimmanapalli	
247	Do.	Seroomayaloor	
248	Do.	Vellore	
249	Do.	Seeramboor hills	
250	Do.	Peddagoondlapalli	
251	Do.	Vungambadipalle	
252	Do.	Maddúru	
253	Do.	Seroomayaloor	
254	Do.	Chengunam	
255	Do.	Ramala	
256	Do.	Aggichénupalli	
257	Do.	Tiruvengalanádharájupuram ..	
258	Do.	Ásanámpattu	

259	Do.	Ramala	
260	Do.	Gorivimakulapalli	
261	Do.	Kristnapuram	
262	Decomposing rocks with Magnetite.	Agraharam	
263	Do. do. ..	Aggichénupalli	
264	Do. do. ..	Tátimákulapalli	North Arcot District.
265	Do. do. ..	Chavutagunta	
266	Do. do. ..	Mohendeavady	
267	Do. do. ..	Chentalagunta	
268	Do. do. ..	Vellore	
269	Do. do. ..	Do.	
270	Do. do. ..	Árni	
271	Do. do. ..	Do.	
272	Do. do. ..	Atúr	
273	Do. do. ..	Near Fort of Árni	
274	Do. do. ..	Nairpet	
275	Do. do. ..	Vellore	
276	Do. do. ..	Mohendeavady	
277	Do. do. ..	Vellore	
278	Do. do. ..	Do.	
279	Do. do. ..	Hill Fort at Vellore	
280	Do. do. ..	Vellore	
281	Do. do. ..	Seroomayaloor	
282	Hæmatite	Sadasambadu	
283	Do.	Kálahasti	
284	Limonite	Boundary between Venkatagiri and Kálahasti.	
285	Do.	Do. do. ..	
286	Do.	Sirasanambédu	
287	Do.	Do.	
288	"Bloom" of Iron	Gorivimakulapalle	
289	Do.	Nalikiri	

No.	Name of specimen.	Locality.	District.
		NORTH ARCOT DISTRICT—*continued.*	
290	"Bloom" of Iron	Satghur	
291	Do.	Sirasanambédu	
292	Do.	Thoongundram	
293	Do.	Kottakóta	
294	Do.	Kristnapuram	
295	Do.	North Arcot District	
296	Do.	Do. do.	
297	Do.	Nayanooroo	
298	Do.	Maddúru	
299	Do.	Tiruvengalanádharájupuram ..	
300	Do.	Ajeculthedy	
301	Do.	Nimmanapalli	
302	Do.	Tsákalakuppam	
303	Do.	Seroomayaloor	
304	Do.	Do.	
305	Do.	Seeramboor hills	
306	Do.	Árni	
307	Do.	Chengunam	
308	Do.	Aggichénupalli	
309	Do.	Árni	
310	Iron smelted and forged	Seeramboor hills	
311	Do.	Chentlagunta	
312	Do.	Tátimákulapalli	
313	Do.	Chentlagunta	
314	Do.	Árni	
315	Do.	Do.	

316	Do.	Do.	North Arcot District.
317	Do.	Sadasumbadu	
318	Iron sand	Athinapalli, Chandragiri Taluk	
319	Do.	Asanámpattu, Vellore Taluk	
320	Do.	Vannántángal do.	
321	Do.	Jakkidona, Chandragiri Taluk	
322	Do.	Amásaváripalli do.	
323	Do.	Nachchukúr do.	
324	Do.	Mangalapalli do.	
325	Do.	Maddinayanipalli do.	
326	Do.	Vonnembutt, Vellore Taluk	
327	Do.	Voppaulapalli, Chandragiri Taluk	
328	Do.	Pallippattu, Vellore Taluk	
329	Do.	Múngilpattu, Chandragiri Taluk	
330	Do.	Camachinnapalli, Chandragiri Taluk.	
331	Do.	Pákkam, Vellore Taluk	
332	Do.	Chinnasánamareddipalli, Chandragiri Taluk.	
333	Do.	North Arcot District	
334	Do.	Chinnapápayagaripalli, Chandragiri Taluk.	
335	Do.	Ichanéri, Chittoor Taluk	
336	Do.	Alankuppam, Vellore Taluk	
337	Do.	Gopalpalli, Chandragiri Taluk	
338	Do.	Dévarasikuppam	
339	Do.	Kalampattu	
340	Do.	Bootheevankul, Chandragiri Taluk.	
341	Do.	Thumbapalliemkuppam, Chittoor Taluk.	
342	Do.	Súrankuppam	

No.	Name of specimen.	Locality.	District.
		NORTH ARCOT DISTRICT—*continued.*	
343	Iron sand	Thettupalli, Chandragiri Taluk ..	
344	Do.	Namgul	
345	Do.	Malayapattu	
346	Do.	Mélmayal	
347	Do.	Pákkam, Satghur Taluk	
348	Do.	Gundalapalli	
349	Do.	Nellimánipadu	
350	Do.	Karakkúr	
351	Do.	Modikuppam	
352	Do.	Kottapalli	
353	Do.	Kattarikuppam, Vellore Taluk ..	
354	Do.	Rangampettai, Satghur Taluk ..	
355	Do.	Senkunam, Polúr Taluk	
356	Do.	Sottukkinni, do.	
357	Do.	Modaiyúr, do.	
358	Do.	Timmayyagáripalli	
359	Do.	Mahadanapuram, Tirutani Division.	
360	Do.	Gungenarayenkuppam, Trivellum Taluk.	
361	Do.	Chenji	
362	Do.	Venkatrayakuppam, Tirutani Division.	
363	Do.	Ámudala, Tirutani Division ..	
364	Do.	Pallelakuppam	

365	Do.	Kánkuppam	North Arcot District.
366	Magnetite in decomposing rocks	Modaiyur, Polúr Taluk	
367	Do.	Do. do.	
368	Do.	North Arcot District	
369	Do.	Pottarai, Polúr Taluk	
370	Do.	Marakolakuppam, Trivellum Taluk	
371	Do.	Ramalingapuram, Tirutani Division	
372	Do.	Pádagám, Polúr Taluk	
373	Do.	Senkunam, do.	
374	"Bloom" of Iron	North Arcot District	
375	Do.	Do.	
376	Do.	Bootheevaukul, Chandragiri Taluk.	
377	Do.	Thottupalli, do.	
378	Do.	Gollapalli, do.	
379	Do.	Mangalapalli, do.	
380	Do,	Voppaulapalli, do.	
381	Do.	Amasavarupalli, do.	
382	Do.	Asanampattu, Vellore Taluk	
383	Do.	Alankuppam, do.	
384	Do.	Amedayala, Tirutani Division	
385	Do.	Kommapollium, do.	
386	Do.	Kattarikuppam, Vellore Taluk	
387	Do.	North Arcot District	
388	Do.	Pallippattu, Vellore Taluk	
389	Do.	Tirumalarájupéta, do.	
390	Do.	Rangarájukhandiga, Tirutani Division.	
391	Do.	Ramalingapuram, Tirutani Division.	
392	Do.	Mahathevapuram, do.	
393	Do.	Venkatarayakuppam, do.	
394	Do.	Kondum, do.	

No.	Name of specimen.	Locality.	District.
		NORTH ARCOT DISTRICT—*continued.*	
395	"Bloom" of Iron	Vanathurgapuram, Tirutani Division.	North Arcot District.
396	Do.	Pakkam, Vellore Taluk	
397	Do.	Rámala, Gudiyatam Taluk	
398	Do.	Vaniyambádi, Vellore Taluk ..	
399	Do.	Kottapalli, Gudiyatam Taluk ..	
400	Do.	Kallappádi, do. ..	
401	Do.	Senkunam, Polúr Taluk	
402	Do.	Chintakanama, Gudiyatam Taluk ..	
403	Do.	North Arcot District	
404	Do.	Pakkam	
405	Do.	Valadoomipollium	
406	Do.	Erikkanjéri, Tirutani Division ..	
407	Do.	Pottarai, Polúr Taluk	
408	Do.	Jakkidona, Chandragiri Taluk ..	
409	Do.	Modaiyúr, Polúr Taluk	
410	Do.	Sottukkinni, do.	
411	Do.	Rangampettai, Gudiyatam Taluk ..	
412	Do.	Krishnanpalli, do. ..	
413	Do.	Athinapalli, Chandragiri Taluk ..	
414	Do.	Módikuppam, Gudiyatam Taluk ..	
415	Do.	Nachucooroo Chandragiri Taluk ..	
416	Do.	Gundalapalli, Gudiyatam Taluk ..	
417	Do.	Kamachunapalli, Chandragiri Taluk. ..	

418	Do.	Múngilpattukottapalli, Chandragiri Taluk.	
419	Do.	Pádagam, Polúr Taluk	
420	Do.	Nellimánipadu, Gudiyatam Taluk ..	
421	Do.	Maddinayanipalli, Chandragiri Taluk.	
422	Do.	North Arcot District	
423	Do.	Kalampattu, Gudiyatam Taluk ..	
424	Do.	Malayapattu, do. ..	
425	Iron smelted and forged	Devarásikuppam, do. ..	
426	Do.	North Arcot District	
427	Do.	Do.	
428	Do.	Kankuppam	
429	Do.	Chenji	
430	Do.	Melmayal	
431	Do.	North Arcot District	
432	Do.	Súrankuppam, Gudiyatam Taluk ..	
433	Do.	Nagala, do. ..	

SOUTH ARCOT DISTRICT.

434	Magnetite	Puthukkadai	South Arcot District.
435	Iron sand	Chetpat Taluk	
436	Do.	Do.	
437	Do.	Do.	
438	Do.	Brought from Salem to be used at Porto Novo.	
439	Do.	....	
440	Do.	Tiruvanámalai	
441	Decomposing rocks with magnetite ..	Do.	
442	Do. ..	Do.	

No.	Name of specimen.	Locality.	District.
	SOUTH ARCOT DISTRICT—*continued.*		
443	Decomposing rocks with Magnetite..	Tiruvanámalai	South Arcot District.
444	Do. ..	Kallakurchi	
445	Hæmatite	Arinattam	
446	Do.	Do.	
447	Do.	Do.	
448	Do.	Near Cuddalore	
449	Do.	Tiruvádi	
450	Do.	Do.	
451	Limonite	Senkurchi	
452	Roasted iron ore	....	
453	Do.	Tiruvádi	
454	Do.	Elavánásúr	
455	Kunker used as a flux	Porto Novo	
456	Charcoal used as a fuel	Do.	
457	Do. do.	Do.	
458	Burnt brick glazed with iron slag ..	Do.	
459	"Bloom" of Iron	Tiruvádi	
460	Iron smelted and forged	Porto Novo	
461	Do.	From Salem, and smelted at Porto Novo.	
462	Do.	Do. do.	
463	Particles of steel	Chetpat	
464	Iron smelted and forged	Tiruvanámalai	
465	....	Elavánásúr	
466	....	...	

467	....	....	
468	"Bloom" of Iron	Tiruvanámalai	South Arcot District.
469	Do.	Kallakurchi	
470	Do.	Tiruvanámalai Taluk	
471	Do.	Do.	
472	Do.	Do.	
473	Do.	Do.	
474	Iron smelted and forged	Tiruvádi	
475	Grey pig Iron	Porto Novo	

CHINGLEPUT DISTRICT.

476	Iron sand	Chingleput	Chingleput District.
477	Magnetite	Vembakkam	
478	Do.	Pallávaram	
479	Do.	Do.	
480	Do.	Chingleput	
481	Do.	Do.	
482	Do.	Do.	
483	Do.	Do.	
484	Do.	South of Pallávaram hill	
485	Do.	Chingleput	
486	Do.	Do.	
487	Decomposing rocks with Magnetite.	Near Pallávaram	
488	Hæmatite	Near Rajah's Choultry	
489	Limonite	Kávéripák	
490	Limonite from altering Magnetite and Pyrite.	Near Pallávaram	
491	Supposed slag, but probably a brick clinker.	Chingleput	
492	Do. do.	Do.	
493	"Bloom" of Iron	Near Covelong	

No.	Name of specimen.	Locality.	District.
		CHINGLEPUT DISTRICT—*continued.*	
494	Iron smelted and forged	Near Covelong	Chingleput District.
495	Do.	Do.	
496	Do.	Do.	
		SALEM DISTRICT.	
497	Iron sand	Pungavadi	
498	Do.	Kadavani	
499	Do.	Ettikuppam	
500	Do.	Korati	
501	Do.	Tolúr	
502	Do.	Mangalapuram	
503	Do.	Nagiampatti	
504	Do.	Hosúr	
505	Do.	Vengiyampatti	
506	Do.	Salem District	
507	Do.	Sandarapati	
508	Do.	Mathuruttu	
509	Do.	Elattur	
510	Do.	Atúr	
511	Do.	Shendamangalam	
512	Do.	Nayinamalai mine, near Salem ..	
513	Do.	Madakkallu	
514	Do.	Near Namkul	
515	Do.	Madakkallu	
516	Do.	Arekundempatti	
517	Do.	Madakkallu	

518	Do.	Kanjamalai	Salem District.
519	Do.	Nayinamalai	
520	Do.	Do.	
521	Magnetite in octahedron	Atúr	
522	Do.	Kanjamalai	
523	Do.	Salem District	
524	Do.	Salem	
525	Do.	Do.	
526	Do.	Nayinamalai	
527	Do.	Pungavadi	
528	Hæmatite	Near Salem	
529	"Bloom" of Iron	Tenkarakottai	
530	Do.	Mambadi	
531	Do.	Palayam	
532	Do.	Poyapatti	
533	Do.	Ettipatti	
534	Do.	Elavambadi	
535	Do.	Denkenikotta	
536	Do.	Nadupatti	
537	Do.	Padakupum	
538	Do.	Kottúr	
539	Do.	Modugalahalli	
540	Do.	Alangayam	
541	Do.	Perambattu	
542	Do.	Do.	
543	Do.	Salem District	
544	Do.	Hosúr Taluk	
545	Do.	Venkatanaikenpalli	
546	Do.	Do.	
547	Do.	Alangayam	
548	Do.	Sandarappatti	
549	Do.	Atúr	

No.	Name of specimen.	Locality.	District.
	SALEM DISTRICT—*continued.*		
550	"Bloom" of Iron	Mathuruttu	
551	Do.	Koneriputti	
552	Do.	Arasanatham	
553	Do.	Thammamputti	
554	Do.	Pungavadi	
555	Do.	Sankeridrug	
556	Do.	Elattur	
557	Do.	Gengavalli	
558	Do.	Salem District	
559	Do.	Nagiampatti	
560	Do.	Thammamputti	
561	Do.	Atúr	
562	Iron slag	Salem District	
563	Do.	Do.	
564	Do.	Do.	
565	....	....	
566	Iron smelted and forged	Tolúr	
567	Do.	Hosúr Taluk	
568	Do.	Sendamungalam	
569	Do.	Salem	
570	Do.	Perunkurichi	
571	Steel from Iron	Atúr	
572	Steel from Wootz	Salem	
573	Cast steel	Do.	Salem District.
574	Wootz steel	Do.	
575	Steel	Rasipur	

576	Do.	Salem	
577	Do.	Rasipur	
578	Iron ore, "bloom"		
579	Forged bar and pick		
580	"Bloom" of Iron		
581	Metallic Iron		
582	Nodules of smelted Iron	Rasipur	
583	Iron smelted and hammered	Salem	
584	Chrome Iron ore	Do.	
585	Do.	Chalk hills	
586	Do.	Do.	
587	Do.	Do.	
588	Do.	Do.	
589	Do.	Do.	

MALABAR DISTRICT.

590	Iron sand	Temalpuram Taluk	Malabar District.
591	Do.	Do.	
592	Do.	Chengára	
593	Do.	Kurumbranád	
594	Do.	Malabar	
595	Do.	Shernád	
596	Magnetite	Raniamparampoo	
597	Do.	Beypore (blast furnace)	
598	Do.	Near Beypore	
599	Do.	Do.	
600	Do.	Do.	
601	Do.	Do.	
602	Do.	Do.	
603	Do.	Do.	
604	Do.	Do.	
605	Do.	Nilambur	

ORES AND PRODUCTS OF SOUTHERN INDIA—*continued.*

No.	Name of specimen.	Locality.	District.
		MALABAR DISTRICT—*continued.*	
606	Magnetite	Varakkal	Malabar District.
607	Do.	Near Beypore	
608	Do.	Do.	
609	Limonite	Tellicherry	
610	Do.	Do.	
611	Do.	Near Beypore	
612	Charcoal	Beypore	
613	Do.	Do.	
614	Series of five specimens illustrating changes through a Kaolin to a lateritic Iron ore 1	Near Beypore	
615	Do. 2	Do.	
616	Do. 3	Do.	
617	Do. 4	Do.	
618	Do. 5	Do.	
619	Roasted Iron ore	Do.	
620	Irool charcoal	Do.	
621	White Murnaad charcoal	Do.	
622	Shells used as a flux	Beypore	
623	Iron slag	Do.	
624	Clay used for common brick	Do.	
625	Red common brick	Do.	
626	Fire brick	Do.	
627	Fire brick from interior furnace	Do.	
628	Puddling furnace slag	Do.	
629	Refinery slag	Do.	

630	Hammer slag	Do.	
631	Reduced iron taken from a furnace above the zone of fusion.	Do.	
632	Roll scale	Do.	
633	Pig iron	Do.	
634	Do.	Do.	
635	Mottled do.	Do.	
636	Refinery iron	Do.	
637	Pig iron	Do.	
638	Puddled iron previous to being hammered.	Do.	
639	Hammered puddled "bloom" ..	Do.	
640	Rolled puddled bar	Do.	
641	Bar iron	Do.	
642	Finished iron	Do.	
643	Do.	Do.	
644	Boiler plate	Do.	
645	Twisted iron	Do.	
		Nílgiri District.	
646	Magnetite	Nílgiris	Nílgiri District.
647	Do.	Scotland valley	
648	Do.	The lake, Ootacamund	
649	Do.	Rambolt's hill	
650	Do.	Nílgiris	
651	Do.	In beds in quartz	
652	Do.	Nílgiris	
653	Do.	Do.	
654	Limonite	Do.	
655	Do.	Scotland valley	
656	Do.	Do.	
657	Do.	Do.	

No.	Name of specimen.	Locality.	District.
	NÍLGIRI DISTRICT—*continued.*		
658	Limonite	Scotland valley	Nílgiri District.
659	Do.	From yellow clay, Kótagiri	
660	Do.	Dodabetta	
661	Do.	Ootacamumd	
662	Do.	Nílgiris	
663	Iron bar	Do.	
664	Do.	Do.	
	TRICHINOPOLY DISTRICT.		
665	Iron sand (ore)	Koppampatti	Trichinopoly District.
666	Iron ore with graphite	Do.	
667	"Bloom" of Iron	Do.	
668	Wootz	Do.	
669	"Bloom" of Iron	Do.	
	MADURA DISTRICT.		
670	Magnetite	Madura	Madura District.
671	Magnetite with pyrite	Do.	
672	Do.	Do.	
673	Do.	Do.	
674	Limonite	Do.	
675	"Bloom" of Iron	Sivaganga	
	TINNEVELLY DISTRICT.		
676	Iron sand	Sankaranainárkoil	
677	Do.	Bramadesam	

678	Do.	Nángunéri	Tinnevelly District.
679	Magnetite	Tinnevelly	
680	"Bloom" of Iron	Bramadesam	
681	Do.	Tenkási	
682	Do.	Srívilliputur	
683	Do.	Sankaranainárkoil	
684	Do.	Tinnevelly	
685	Do.	Nangunéri	
686	Do.	Sankaranainárkoil	
687	Do.	Tenkási	
688	Iron smelted and hammered	Tinnevelly	

TRAVANCORE.

689	Iron sand	Arambooly lines	Travancore.
690	Magnetite	....	
691	Do. of Iron	Trevandrum	
692	Iron ore with graphite	Thonieul, near Ajengo	
693	Limonite	Near Quilon	
694	"Bloom" of Iron	Quilon	
695	Do.	Moorteepully	
696	Do.	Near Quilon	
697	Do.	Arambooly lines	
698	Do.	Trevandrum	
699	Wootz	....	
700	Graphite	Trevandrum	

MYSORE TERRITORY.

701	Iron sand	Chittaldroog	Mysore Province.
702	Do.	Mysore	
703	Do.	Do.	

ORES AND PRODUCTS OF SOUTHERN INDIA—*continued.*

No.	Name of specimen.	Locality.	District.
		Mysore Territory—*continued.*	
704	Magnetite	Between Mysore and Chetnahalli	Mysore Province.
705	Do.	Near Mysore	
706	Do.	Mysore	
707	Do.	Nimpapúr	
708	Do.	....	
709	Do.	Nagar Division	
710	Do.	Between Mysore and Chetnahalli	
711	Ferruginous Quartz	Mallapankonda, south of Kolar Gold Field.	
712	Hæmatite	Bababuden hills	
713	Do.	Do.	
714	Do.	Do.	
715	Do.	Do.	
716	Do.	Mysore	
717	Do.	Chittaldroog	
718	Limonite	Sorab Taluk	
719	Do.	Manjarabad ghát	
720	Do.	Mysore	
721	Do.	Bababuden hills	
722	Do.	Mysore	
723	Do.	Do.	
724	Clay used as crucible	Vitpalli?	
725	Iron used as crucible	Do.	
726	Iron ore smelted and hammered	Mysore	
727	Iron bar	Chittaldroog	
728	Do.	Do.	

729	Wootz	Mysore	
730	Do.	Do.	
731	Do.	Chittaldroog	
732	Do.	Do.	
		NIZAM'S DOMINIONS.	
733	Magnetite	Hyderabad	
734	Do.	Warangal	
735	Do.	Secunderabad	
736	Do.	Indri Taluk	
737	Do.	Tarirgiri, Gangawatti, near Hyderabad.	
738	Do.	Do. do. ..	
739	Hæmatite	Warangal	
740	Do.	Hyderabad	
741	Limonite	Do.	
742	Do.	Do.	Nizam's Dominions.
743	"Bloom" of Iron	Kurnool, Hyderabad	
744	Do.	Do.	
745	Do.	Do.	
746	Do.	Do.	
747	Do.	Do.	
748	Iron smelted and hammered ..	Do.	
749	Do.	Do.	
750	Do.	Do.	
751	Do.	Do.	
752	Wootz	Do.	

IV.—MISCELLANEOUS COLLECTION OF ORNAMENTAL ROCKS, &c.

No.	Name of specimen.	Locality.	Remarks.
1	A yellow marble	From Siena.	
2	Campan vert	,, the Pyrenees.	
3	Do. Melange	,, do.	
4	Do. Griotte	,, do.	
5	A marble	,, France.	
6	Variegated cherry red marble ..	,, Italy.	
7	Bize rose	,, the Pyrenees.	
8	Medoux Jaune	,, do.	
9	Bréche Africain	,, do.	
10	Lumachella pont Vieux	,, do.	
11	Lumachella Menigon	,, do.	
12	Black marble	,, England	A very fine crystalline.
13	Do. crystalline marble	....	Polished; very hard, and susceptible of a very high polish.
14	Blue crystalline marble	....	Polished.
15	....	....	
16	....	....	
17	Fossiliferous Limestone	From Trichinopoly District ..	Compact; granular; full of cretaceous fossils. The well-known Trichinopoly marble.
18	....	....	
19	....	....	
20	A marble	From France	Beautifully streaked with dark-grey spots.
21	French slab of white and grey and blackish marble.	,, do.	With crystals of limestone.
22	A marble	,, do.	Streaked with dark-grey spots.
23	A deep ash grey marble	,, do.	With a very high polish.
24	Do.	,, do.	Do.

25	Aspin coquille	,,	the Pyrenees.
26	St. Anne Francais	,,	do.
27	St. Anne Granite	,,	do.
28	Solitaire	,,	do.
29	Amaranthe Cachemire	,,	do.
30	Shell marble	,,	Ootatoor .. .. ..
31	A slab of Trichinopoly marble ..	,,	near Pondicherry .. ..
32	Shell limestone marble	,,	Trivakarri, near Wardoova village, South Arcot District.
33	Shell marble	,,	Nellore? .. .. ..
34	A slab of white crystalline marble..	,,	Boordecansdin, France ..
35	Do. do. ..	,,	Do. ..
36	Slab of pure white Carrara marble..	,,	Carrara .. .. ..
37	Small specimen of marble	,,	the Palnád .. .. ..
38	Do.	,,	do.
39	Do.	,,	do.
40	Brown and grey magnesian Limestone.	,,	Cape Comorin .. ..
41	Striped black and white marble ..		....
42	Black crystalline marble		....
43	....		....
44	Blue wavy crystalline marble ..		....
45	Alabaster slab	,,	Rangoon.
46	Small specimen of marble	,,	in the Dyda.
47	Coarsely laminated Limestone ..		....
48	Small specimen of marble	,,	Pondigul.

It is not a granite, but a true limestone.
A polished slab.
Apparently magnesian, and consisting of shell breccia: used for paving and ornament.
Said to come from Nellore, but is probably Trichinopoly marble.
Used as an ornamental marble.
Do.
Like the Siena marble.
Coated with red and grey conglomerate.
Polished and unpolished.
Of a brownish color; compact, and known as oil stone of Lorraine.

MISCELLANEOUS COLLECTION OF ORNAMENTAL ROCKS, &c.—*continued.*

No.	Name of specimen.	Locality.	Remarks.
49	Dark black compact Limestone called "nulla ray."	In the bed of a nullah near Cuddapah.	Suited for ornamental and building purposes.
50	Black marble	Near Pondigul	A very hard specimen; slabs of 2 feet × 1 are procurable. It is disfigured by faintly reddish point, but it is suited for building purposes.
51	A marble	....	
52	Do.	Dáchepalle	Used for ornamental and building purposes. Is white, finely crystalline, with a faintly blue tint, and well deserving attention as an ornamental and building material. It is procured behind the village of Dáchepalle, where there is a very extensive bed.
53	Oil stone	Lorraine.	
54	Do.	Belgium.	
55	Pondigul slate	Kimedi.	
56	Granite composed of red Felspar and grey Quartz.	....	Chlorite and a few minute portions of black mica.
57	Slab of Syenite	South of Palláveram	Polished; is used for ornamental building purposes.
58	Syenite rock	Pallávaram	Composed of yellowish felspar, grey quartz, and abundance of black mica.
59	Green stone	....	Polished.
60	....		
61	Italian alabaster		
62	Porphyry		

63	Do.	Seringapatam	Polished; with a base of red felspar embedding whitish crystals of the same mineral and crystals of hornblende.
64	Do.	....	
65	Do.	.... ..	Polished; with a base of compact felspar embedding whitish crystals of the same mineral and crystals of hornblende.
66	Do.	....	
67	Do.	.... ..	Polished; with a base of red felspar embedding oblong crystals of hornblende and crystals of green felspar.
68	Do.	....	
69	Silicified wood	Pondicherry.	
70	Granite	....	Polished.
71	Jasper	Hyderabad.	
72	Do.	Cuddapah District.	
73	Striped Jasper	Hyderabad.	
74	Do.	Do.	
75	Do.	Do.	
76	Do.	Do.	
77	Do.	Do.	Heliotrope.
78	Do.	Do.	
79	Fortification Agate	Hyderabad.	
80	Chalcedony	Do.	
81	Agate pebble	Masulipatam.	
82	Quartz crystals	Hyderabad.	
83	Serpentine	....	
84	Magnesian Limestone	Kurnool	Serpentine lithographic stone.
85	Do.	.... ..	Lithographic stone.
86	Lithographic limestone with pyrite.	Gorlagoosha, Nandyál.	
87	Limestone with pyrite	Cuddapah District.	
88	Wood opal	Madura.	

MISCELLANEOUS COLLECTION OF ORNAMENTAL ROCKS, &c.—*continued.*

No.	Name of specimen.	Locality.	Remarks.
89	Wood opal	Madura.	
90	Do.	Do.	
91	Do.	Do.	
92	Chalcedony and Quartz	Masulipatam.	
93	Chalcedony	Hyderabad.	
94	Do.	Do.	
95	Quartz and Chalcedony	Do.	
96	Chalcedony	Do.	
97	Carnelian and Quartz	Do.	
98	Alabaster	Burmah.	
99	Limestone	Bezváda	With spangles of graphite.
100	Kaolin slate	....	With concentric markings in iron oxide.

V.—THE ROCKS OF SOUTHERN INDIA.

No.	Name of specimen.	Locality.	Remarks.
		GANJAM DISTRICT.	
1	Laterite	Near Chatrapur, Ganjam District	
2	Sandstone	Chatrapur, do. ..	Ferruginous; possibly a decomposed gneiss.
3	Quartz rock	Ganjam, do.	
4	Quartzo-felspathic Gneiss	Poobbakhanda Taluk, do.	
5	Grit	Navagam, near Chatrapur, Ganjam District.	Ferruginous; possibly a decomposed gneiss.
6	Quartzo-hornblendic Gneiss ? ..	Chatrapur, Ganjam District.	
7	Granite	Ganjam District	Typical.
8	Do.	Do.	
9	Do.	Do.	With schorl.
10	Quartz	Ranikyari, near Russellkondah, Ganjam District.	Do.
11	Do.	Do. do. ..	Do.
12	Vein Quartz	Chatrapur, do.	
13	Do.	Sotruscollo, do.	
14	Dolerite	Patrapuram, Chikati Taluk, Ganjam District.	
15	Do.	Ganjam District.	
16	Steatite rock	Chatrapur, Ganjam District ..	Approaching common serpentine.

No.	Name of specimen.	Locality.	Remarks.
		GODAVARI DISTRICT.	
17	Sandstone	Rajahmundry, Godávari District ..	Coarse, gritty, weathered.
18	Do.	Vémagiri hills, do. ..	Ferruginous, gritty clayey.
19	Do.	Rajahmundry, do. ..	Ferruginous, weathered.
20	Do.	Vémagiri, do. ..	Clayey, ferruginous, possibly laterite.
21	Do.	Dowléswaram quarry hill, do. ..	Ferruginous.
22	Do.	Do. do. ..	Do.
23	Conglomerate	Do. do. ..	A quartzite conglomerate.
24	Sandstone	Rajahmundry, do.	
25	Do.	Do. do. ..	Fine grained.
26	Quartzite	Do. do. ..	This specimen contains some visible gold (should be enquired after).
27	Clayey Limestone	Do. do. ..	Compact, fine grained, very slightly crystallized.
28	Do.	Do. do. ..	Compact and slightly crystallized.
29	Do.	Do. do. ..	With recent shells.
30	Do.	Do. do.	
31	Carbonate of Lime	Godávari District	Fibrous.
32	Clay stone	Vémagiri hills, Godávari District ..	Possibly metamorphic and decomposed, and therefore a clay slate.
33	Shelly Limestone	Dévarapalli, near Pangadi, Godávari District.	With recent shells.
34	Carbonate of Lime	Rajahmundry, Godávari District ..	Fibrous variety, very like arragonite, clayey.
35	Calc spar	Do. do. ..	Carbonate of lime.
36	Do.	Pangadi, do.	
37	Quartzose Gneiss	Rajahmundry, do. ..	With garnets.
38	Red ochre	Godávari District.	

39	Gneiss	Do.	Quartzose with plumbago.
40	Do.	Rajahmundry, Godávari District ..	Micaceous, hornblendic.
41	Micaceous Gneiss	Hills north of Rajahmundry, do. ..	Largely made up of silvery mica.
42	Schorlaceous Gneiss	Rajahmundry, do. ..	With biotite, mica.
43	Gneiss	Godávari District	Garnetiferous and quartzose.
44	Granite	Rajahmundry, Godávari District ..	Pegmatite.
45	Do.	Ippúru, Godávari District	Binary, quartz and felspar.
46	Do.	Rajahmundry, do.	With silvery mica, peculiarily arranged.
47	Vein rock	Do. do.	Schorl and quartz.
48	Granite	Núzvíd, do.	Quartz, mica, and felspar.
49	Pegmatite Granite	Upper Godávari, do.	Aplite.
		KISTNA DISTRICT.	
50	Slate	Yadadri hill, near Jaggayapet, Kistna District.	
51	Contorted slate	Do. do.	
52	Slate	Do. do.	
53	Do.	Do. do. ..	Contorted bedding.
54	Clay slate	Gangulagunta, Palnád, do.	
55	Slate	Yadadri hill, near Jaggayapet do.	
56	Do.	Do. do.	
57	Do.	Govindapuram, Palnád, do. ..	Calcareous and talcose.
58	Do.	Jaggayapet Taluk, do. ..	Almost "roofing slate."
59	Do.	Yadadri hill, near Jaggayapet, Kistna District.	
60	Clay slate	Guntúr, Kistna District	Possibly a slate from the metamorphic rocks.
61	Laterite	Kistna District	Very ferruginous.
62	Do.	Masulipatam, Kistna District.	
63	Sandy claystone	Kistna District	
64	Sandstone	Mailavaram, Kistna District ..	Weathered.

No.	Name of specimen.	Locality.	Remarks.
		KISTNA DISTRICT—*continued.*	
65	Quartzite sandstone	Palnád, Kistna District	Showing "slickensides."
66	Do.	Do. do.	Cleaved.
67	Do.	Do. do.	
68	Conglomerate	Masulipatam, do.	
69	Gritty sandstone	Jaggayapet, do.	And slate laminæ.
70	Quartzite	Yadadri hills, near Jaggayapet, Kistna District.	Contorted bedding.
71	Quartzite grit	Palnád, Kistna District ..	Ferruginous.
72	Do.	Do. do. ..	With magnetite.
73	Do. conglomerate	Do. do. ..	With pebbles of quartzite.
74	Quartzose rock	Near Bezváda, do. ..	With epidote.
75	Quartzite	Chimalapad, do.	
76	Kunkur	Vinukondu, do. ..	Nodular limestone.
77	Do.	Masulipatam, do.	
78	Limestone	Vellatúr, Mailavaram, do. ..	Earthy.
79	Do.	Gottimukkala, Palnád, do. ..	With a chalcedonic seam.
80	Do.	Vellumpalle, Palnád, do. ..	White, very fine grained.
81	Do.	Tungondah, Palnád, do. ..	Reddish, fine grained.
82	Shaly Limestone	Endroye, Guntúr, do. ..	With laminæ of silvery mica.
83	Limestone	Masulipatam, do. ..	Sub-crystalline.
84	Calc spar	Do. do. ..	In chalcedonic geode.
85	Crystalline Limestone	Do. do.	
86	Limestone	Do. do. ..	Fine grained; sub-crystalline.
87	Crystalline Limestone	Vinukondu hill, do.	
88	Calc spar	Guntúr, do.	

89	Crystalline Limestone	Narasaopet,	do.	
90	Limestone	Gottimukkala, Palnád,	do. ..	Black, compact, very fine grained.
91	Do.	Dáchepalli,	do. ..	Buff, fine grained.
92	Crystalline Limestone	Iccooroo hill,	do.	
93	Göthite, pseudomorphic after pyrite.	Gurajala,	do.	
94	Talcose Schist	Dhoolipaud calava,	do. ..	With talc and not mica.
95	Do. do.	Vinukondu Taluk,	do.	
96	Hornblende Schist	Do.	do.	
97	Quartzo-hornblendic Gneiss ..	Masulipatam,	do.	
98	Banded quartz-hornblendic Gneiss ..	Bogorla hill,	do. ..	With laminæ of hornblende hill.
99	Gneiss	Bezváda hill,	do. ..	Quartzo-felspathic.
100	Do.	Do.	do. ..	Ferruginous with garnets.
101	Do.	Do.	do. ..	Schistose; a very beautiful variety, with (?) garnets.
102	Do.	Masulipatam,	do. ..	Schorlaceous.
103	Do.	Do.	do. ..	Garnetiferous.
104	Do.	Bezváda hill,	do. ..	Quartzo-felspathic with garnets.
105	Schistose Gneiss	Narasaopet,	do. ..	Micaceous.
106	Gneiss	Vinukondu Taluk,	do. ..	Micaceous; schistose.
107	Granitoid Gneiss	Iccooroo hill,	do. ..	Like syenite.
108	Quartzo-felspathic Gneiss	Narasaopet,	do. ..	Perhaps vein granite.
109	Gneiss	Guntúr,	do. ..	Quartzo-felspathic, with laminæ of mica.
110	Quartzose Gneiss	Narasaopet,	do. ..	With laminæ of silvery mica.
111	Granite	Nullapád in Guntúr,	do. ..	Binary, with much felspar.
112	Do.	Guntúr,	do. ..	Felspathic, with black mica.
113	Vein Quartz	Narasaopet,	do. ..	Coated with biotite.
114	Garnets	Bysakapoor Taluk,	do.	
115	Trap	Conderpalle,	do. ..	Diorite.
116	Dolerite	Gangulagunta, Palnád,	do. ..	Fine grained.
117	Do.	Bugalakonda,	do. ..	A trap with olivine.
118	Dolerite?	Mangalagiri,	do.	

ROCKS OF SOUTHERN INDIA—*continued.*

No.	Name of specimen.	Locality.	Remarks.
		Nellore District.	
119	Sandstone	Darsi division, Nellore District	Micaceous.
120	Do.	Nellore, do.	Micaceous (talcose).
121	Quartzite sandstone	Udayagiri, do.	With strings of specular iron ore.
122	Quartz rock	Venkatagiri, do.	Approaching quartzose gneiss.
123	Quartzite	Nellore District	Fine grained; probably from a travelled block.
124	Do.	Do.	
125	Do.	Do.	
126	Do.	Do.	With laminæ of silvery mica.
127	Quartzose Schist	Do.	Granular; approaching quartzose gneiss with rock.
128	Do.	Do.	With mica.
129	Do.	Do.	Do.
130	Talcose Schist	Rápúr, Nellore District.	
131	Do.	Do. do.	
132	Chlorite Schist	Nellore District	Chlorite and mica.
133	Do.	Ravoor Taluk, Nellore District.	
134	Quartzose Gneiss	Do. do.	With laminæ of specular iron ore.
135	Staurolite rock	Nellore, do.	
		Kurnool District.	
136	Clay slate	Kurnool District.	
137	Sandstone	Kurnool, Kurnool District.	
138	Quartzite	Do. do.	
139	Clay shale	Do. do.	

140	Do.	Do. do.	
141	Quartzite	Do. do.	
142	Conglomeratic Quartzite	Probably Kurnool District	Much weathered, and thus looking like a sandstone. The rocks whence diamonds are obtained. Syn. "diamond sandstone."
143	Jasper Quartzite	Kurnool District	Probably from the Dharwar series.
144	Pudding stone	Do.	Conglomerate.
145	Black Limestone	Do.	
146	Calc spar	Kurnool, Kurnool District	On jasperiferous quartzite.
147	Kunkur	Kurnool District.	
148	Limestone	Kurnool, Kurnool District.	
149	Do.	Zorapore, near Kurnool, do. ..	Slightly serpentinous; altered by contact with trap.
150	Talc schist and Quartz	Kurnool District.	
151	Micaceous Gneiss	Do.	
152	Gneiss	Do.	Banded.
153	Banded Gneiss	Kurnool, Kurnool District.	
154	Quartzo-hornblendic Gneiss and porphyritic.	Kurnool District.	
155	Hornblende Schist	Ramallakota Taluk, Kurnool District.	With garnets.
156	Vein Granite	Kurnool District.	
157	Porphyritic Syenite	Do.	
158	Vein Quartz	Do.	With micaceous iron ore.
159	Do.	Do.	
160	Serpentine	Kurnool, Kurnool District.	
161	Do.	Kurnool District. ..	
162	Compact Limestone	Kurnool, Kurnool District	Assuming a crystalline appearance of pyrites.
		BELLARY AND ANANTAPUR DISTRICTS.	
163	? Clay slate	Anantapur and Bellary Districts.	
164	? Do.	Bellary District.	
165	Do.	Bellary, Bellary District.	

No.	Name of specimen.	Locality.	Remarks.
		BELLARY AND ANANTAPUR DISTRICTS—*continued.*	
166	Sandstone	Bellary, Bellary District.	
167	Quartzite	Near Bellary, Bellary District.	
168	Do.	Between Bellary and Kurnool	Ferruginous.
169	Jasper	Bellary District	Quartzite, Dharwar series.
170	Shaly clay	Yadaki, Anantapur District.	Impure limonite.
171	Clay slate	Bellary, Bellary District.	
172	Quartzite	Rámandrug, do.	Ferruginous; weathered.
173	Jasper	Humpi, do.	Quartzite.
174	Quartzite	South of Bellary, do.	
175	Conglomerate Quartzite	Ráyalcheru, Anantapur District	Showing pebbles of finer quartzite and coarse jasper in a matrix of gritty sand.
176	Jasper	Bellary District	Quartzite, with calcareous laminæ.
177	Quartzite Chlorite	Nemakallu, Ráyadrug, Anantapur District.	Of a fine green color, with laminæ.
178	Jasper	Humpi Taluk, do.	Quartzite, Dharwar series.
179	Quartz rock	Hills south-west of Bellary	With tourmaline.
180	? Quartz rock	Bodi Bunda, west of Bellary	With garnets.
181	Quartz rock	Bellary, Bellary District.	
182	Jaspery Chert	Bellary District.	
183	Sandstone	Do.	
184	Kunkur	Humpi.	
185	Do.	Do.	
186	Limestone	Yadaki, Bellary District	Brecciated.
187	Crystalline Limestone	South of Siddesewarrah Pagoda, Bellary District.	

188	Calc spar	Bellary District.	
189	Limestone	Ráyalcheru, Anantapur District ..	With serpentine.
190	Do.	Do. do. ..	Do.
191	Calc spar	Bellary District	
192	Mica schist	Nemakallu	With quartz.
193	Do.	Sunnapurallagutta	Quartzose.
194	Do.	Bellary District	Weathered.
195	Micaceous and talcose Schist ..	Nemakallu.	
196	Chloritic rock	Bellary District	Schistose.
197	Gneiss	South of Nemakallu	Quartzo-felspathic, schistose.
198	Granitoid Gneiss	Bellary District.	
199	Vein Quartz	Do.	Amorphous.
200	Do.	Near Ráyalcheru, Anantapur Dist ..	Crystallized.
201	Vein Granite through hornblendic Gneiss.	Bellary District.	
202	Hornblendic Gneiss	Near Bellary	Approaching schist.
203	Quartzo-hornblendic Gneiss ..	Bellary, Bellary District ..	
204	Gneiss	Kolagul, north-west of do. ..	Possibly granite; the relations of the rock *in situ* alone will tell.
205	Granite	Bellary, do. ..	Quartz.
206	Do.	Do. do.	
207	Do.	Kurugodu	Binary.
208	Do.	Do. Bellary District	Do.
209	Aplite	Do. do.	
210	Green stone	Bellary District	Dolerite.
211	Do.	Kudatini, Bellary District	Diorite.
212	Serpentine	Ráyalcheru, Anantapur District.	
213	Serpentinous limestone	Do. do. ..	Laminated with green mineral serpentine.
214	Do.	....	Do. do.
215	Soapstone	Bellary District.	
216	Chert	Gooty.	

No.	Name of specimen.	Locality.	Remarks.
		CUDDAPAH DISTRICT.	
217	Clay slate	Sankatipalli, Chennúr, Cuddapah District.	Weathered into a clayey shale.
218	Do.	Cuddapah District	Ferruginous; sandy.
219	Ochry clay-stone	Do.	
220	Shaly potstone	Do.	Steatite shale.
221	Clay slate	Vontimitta, do. ..	Coarse and much weathered.
222	Whet slate	Cuddapah, do. ..	Used for grinding carpenter's tools.
223	Brownish clay slate	Cuddapah District	In contact with sandstone.
224	Clay slate	Do.	
225	Do.	Near Mundalore, Cuddapah District.	Almost like a clayey shale; no cleavage apparent.
226	Purple slate	Cuddapah, do.	
227	Clay slate	Cuddapah District.	
228	Quartzite	Vontimitta, do. ..	With string of white quartz.
229	Do.	Dornal Pass, do. ..	Schistose; micaceous.
230	Do.	Cuddapah District.	
231	Jaspery Quartzite	Do.	
232	Quartzite	North of Cuddapah, do. ..	Cherty.
233	Do.	Palkonda, do. ..	Ferruginous; weathered.
234	Do.	Thattimitta, do. ..	Stained with malachite and containing crystals of chalcopyrite, with covering of azurite.
235	Do.	Nallamallais, do. ..	Ferruginous; very fine grained.
236	A pebble from quartzite conglomerate.	Cuddapah District	The pebble comes from the Dharwar series.
237	Quartzite conglomerate	Do.	Probably a pebble of this rock from the diamond mines, Chennur.

238	Quartzite	Cuddapah, Cuddapah District ..	Jaspery variety.
239	Do.	Vontimitta, do. ..	Very fine grained; almost approaching a hornstone.
240	Do. conglomerate and breccia..	Cuddapah District	Jaspidious.
241	Chert	Lunkamalla, Cuddapah District.	
242	Do.	Cuddapah District	Lydian stone.
243	Limestone	Pushpagiri, Cuddapah District ..	With dendritic crystallizations.
244	Do.	Do. do. ..	With iron pyrites.
245	Do.	Do. do.	
246	Do.	Proddutúr, do. ..	With strings of calc spar.
247	Calc spar	Cuddapah District.	
248	Calcite	Do.	Fibrous.
249	Siliceous Limestone	Jangamrázupalli, Cuddapah District.	With galena.
250	Limestone	Cuddapah District.	
251	Blue compact Limestone	Do.	
252	Limestone	Do.	
253	Mica schist	Do.	
254	Mica Gneiss	Do.	
255	Gneiss	Do.	
256	Quartz	Vontimitta, Cuddapah District ..	From a vein.
257	Granite	Cuddapah District.	
258	Pistacite Granite	Do.	Porphyritic; pistacites replacing felspar.
259	Syenite	Guvvalacheruvu, Cuddapah District.	
260	Do.	Talupula, do.	
261	Pistacite rock	Cuddapah District.	
262	Hornblende rock	Do.	Trap.
263	Diorite	Guvvalacheruvu, Cuddapah District.	Porphyritic.
264	Dolerite	Cuddapah District	Greenstone.
		Madras and Chingleput Districts.	
265	Clay	Sríperumbudur, Chingleput District.	
266	Do.	Do. do.	

ROCKS OF SOUTHERN INDIA—*continued.*

No.	Name of specimen.	Locality.	Remarks.
		MADRAS AND CHINGLEPUT DISTRICTS—*continued.*	
267	Clay	Sríperumbudur, Chingleput District.	Gritty.
268	Do.	Do. do.	
269	Do.	Red Hills, do. ..	Approaching shale.
270	Shale	Do. do. ..	Clayey; indurated.
271	Do.	Do. do. ..	Micaceous.
272	Do.	Do. do. ..	Clayey.
273	Clayey sandstone	Sríperumbudur, do.	
274	Shaly sandstone	Do. do.	
275	Sandstone	Do. do.	
276	Laterite	Kolatúr, do.	
277	Do.	Red Hills, do.	
278	Conglomerate	Do. do. ..	Laterite, clayey.
279	Laterite	Adyar, Mount, do.	
280	Do.	Guindy, do.	
281	Laterite	Sríperumbudur, do.	
282	Calcareous conglomerate	Madras.	
283	Calcareous	Sríharikót	With recent shells.
284	Kunkur	Madras	A peculiarly Indian form of travertine; in this case, a nodular mass of clayey and ferruginous limestone.
285	Silicified wood	Chingleput District	Said to be from Chingleput District.
286	Quartzite	Do.	
287	Do.	Do.	Finely granular; vitreous.
288	Do.	Do. do. ..	Much weathered; almost like a sandstone; ferruginous.

289	Do.	Kambakkam, north-west of Madras, Chingleput District.	
290	Do.	Do. do.	
291	Do.	Guindy Jail, do.	
292	Jaspery Quartzite	Red Hills, do. ..	Coarse, approaching flint; probably a travelled fragment.
293	Quartzo-felspathic Gneiss	Mahábalipuram, do. ..	Binary of felspar and quartz.
294	Do. do.	Pallávaram, do. ..	Porphyritic.
295	Gneiss	Mahábalipuram, do. ..	Quartzo-felspathic.
296	Do.	Chingleput District	Of quartz, felspar and mica.
297	Do.	Pallávaram, Chingleput District.	
298	Quartzo-hornblendic Gneiss ..	Near St. Thomas' Mount, do.	
299	Dioritic	Chingleput District.	
300	Hornblendic trap	Chingleput, Chingleput District.	
301	Basaltic trap	Guindy, do.	
		North Arcot District.	
302	Clay slate	Karakambádi, North Arcot District.	
303	Do.	Near Karakambádi, do.	
304	Conglomerate	Between Chittoor and Arcot, North Arcot District.	An altered siliceous conglomerate; syenite quartzite conglomerate.
305	Sandstone	North Arcot District.	
306	Quartzite	Do.	
307	Quartzose rock	The Droog, North Arcot District.	
308	Quartzite grit	North Arcot District.	
309	Quartzite	Do.	
310	Do.	Do.	
311	Do.	Do.	
312	Talcose Schist	Doorgum Hills, south-east of Kalahasti, North Arcot District.	

ROCKS OF SOUTHERN INDIA—*continued.*

No.	Name of specimen.	Locality.	Remarks.
		NORTH ARCOT DISTRICT—*continued.*	
313	Chloritic Schist	North Arcot District.	
314	Do.	Doorgum Hill, south-east of Kalahasti, North Arcot District.	
315	Do.	Do. do.	
316	Talcose Schist	Do. do. ..	Weathered.
317	Gneiss	North Arcot District	With strings of trap.
318	Quartzo-felspathic Gneiss	Kuppam, North Arcot District.	
319	Gneiss	Palmanér, do. ..	Hornblendic.
320	Do.	Do. do. ..	Hornblendic, schistose.
321	Do.	Sengalnattam, near Sholinghur, North Arcot District.	Hornblendic with strings of quartz.
322	Do.	Palmanér, North Arcot District.	
323	Do.	Near Vellore, do. ..	With garnets.
324	Syenitic Gneiss	Near Sholinghur, do.	
325	Gneiss	Do. do.	
326	Red vein Quartzite	North Arcot District	Used by saddlers for sharpening their large and small tools.
327	Epidote Granite	Palmanér, North Arcot District.	From vein.
328	Do. from vein ..	Near Sholinghur, do.	
329	Do.	Do. do.	
330	Hornblendic rocks	Teroovacaray, near Vellore, do. ..	Trap.
331	Diorite	Near Sholinghur, do. ..	Green stone; hornblendic trap.
332	Trap	Do. do. ..	With strings of epidote.

333	Porphyritic Basalt	Káveripak, do.	
334	Basalt	Between North and South Arcot ..	Rolled fragment used by the shoe-makers of Madras for sharpening their knives on. It is called by them *sanakul*, which literally means sharpening stone. All the shoe-makers of Madras are said to use the same material.
335	Laterite	North Arcot District.	
336	Clay stone	Do.	
337	Rotten stone	Do.	
338	Sand stone	Do.	
339	Do.	Vellore, North Arcot District.	
340	Do.	Near Vellore, do. ..	A fine grained schistose, which might be tried as a ragstone.
341	Do.	North Arcot District.	
342	Greyish chert	Ballipalle, North Arcot District ..	Too hard and not sufficiently granular for grindstone.
343	Quartzite	Vellore, North Arcot District ..	Chipped by the old palæolithic men.
344	White Quartz	North Arcot District	Used by shoe-makers for sharpening awls, &c.
345	Gneiss	Do.	Do. do.
346	Basalt	Do.	Used by saddlers for sharpening their awls and knives on.
		South Arcot District.	
347	Clay	Tiruvendipuram, Cuddalore, South Arcot District.	Pottery clay.
348	Do.	Do. do. ..	Do.
349	Laterite	South Arcot District.	
350	Shelly Limestone	Do.	Cretaceous.
351	Granite	Do.	Pegmatite.

No.	Name of specimen.	Locality.	Remarks.
		SALEM DISTRICT.	
352	Kaolin clay	Salem, Salem District	Used as a colour.
353	Kaolin	Salem District	From gneiss.
354	Quartzite	Do.	Water-worn.
355	Ferruginous Quartzite	Do.	
356	Iron ore from beds	Tirtamalai, Salem District.	
357	Calcareous deposit	Salem District.	
358	Magnesite	Near Salem, Salem District ..	Carbonate of magnesia.
359	Do.	Salem District.	
360	Do.	Near Salem, Salem District.	
361	Talcose Schist	Do. do.	
362	Gneiss	Salem District.	
363	Do.	Salem, Salem District.	
364	Do.	Do. do.	Quartzo-felspathic, with hornblende, weathered.
365	Do.	Do. do.	Schistose.
366	Do.	Belúr, do.	Garnetiferous.
367	Do.	South of do.	Syenitic.
368	Felsite	Kandili, nearTirupatúr, do. ..	Porphyritic.
369	Vein of Epidote	Kandikuppam, Salem District ..	
370	Epidote	Do. do. ..	From epidote granite.
371	Granite	Do. do.	
372	Do.	Salem District.	
373	Epidote Granite	Pálakód, Salem District.	
374	Diorite	Salem District.	
375	Do.	Maharajagadai, Salem District.	
376	Amphibolite	Salem District	Trap, coarsely crystallized.

377	Basalt	Do.	
378	Dolerite	Do.	
379	Fibrous Serpentine	Do.	
380	Do.	Shevaroys, Salem District.	
381	Do.	Salem District.	
		COIMBATORE DISTRICT.	
382	Laterite	Coimbatore District.	
383	Do.	Do.	
384	Jaspideous conglomerate	Do.?	
385	Corundum	Sholasigamony, Coimbatore District.	From a bed of the mineral.
386	Dharwar Quartzite (?)	Coimbatore District	Ferruginous.
387	Limestone	$9\frac{1}{2}$ miles from Coimbatore, Coimbatore District.	
388	Do.	Mudinamallai, do.	
389	Foliated Quartzose Schist	Coimbatore District.	
390	Quartzose Schist	Do.	Talcose.
391	Hornblende Schist	Do.	With garnets.
392	Do.	Do.	
393	Talcose Schist	Do.	
394	Chloritic Schist	Do.	
395	Do.	Do.	
396	Schistose Gneiss	Do.	
397	Gneiss	Do.	Felspathic.
398	Do.	Do.	Quartzo-hornblende and felspathic.
399	Hornblendic Gneiss	Do.	
400	Foliated Gneiss	Do.	
401	Gneiss	Do.	Worked specimen.
402	Graphic Granite	Kángyam, Coimbatore District ..	From the Beryl mines.
403	Vein Granite	Coimbatore District.	
404	Granite	Do.	Decomposed with garnets.

ROCKS OF SOUTHERN INDIA—*continued.*

No.	Name of specimen.	Locality.	Remarks.
		COIMBATORE DISTRICT—*continued.*	
405	Diorite	Coimbatore District.	Very fine grained.
406	Strings of trap through Gneiss ..	Bed of Cauvery, Coimbatore District.	
407	Amphibolite	Coimbatore District.	
408	Dolerite	Do.	Fine grained.
409	Crystalline Quartz	Do.	
		NÍLGIRI DISTRICT.	
410	Laterite	Nílgiris, Nilgiri District ..	Calcareous.
411	Peat	Near Ootacamund, do.	
412	Calc spar	Nílgiris, do.	
413	Talcose Schist	Do. do.	
414	Gneiss	Do. do.	
415	Quartzose Gneiss	Summit of Dodabetta, do. ..	Weathered; with garnet.
416	Gneiss	Nílgiris, do. ..	With garnets.
417	Do.	The lake, Ootacamund, do. ..	With garnets.
418	Do.	Nílgiris, do. ..	With large garnets.
419	Do.	Do. do.	
420	Do.	Do. do.	
421	Do.	Do. do.	
422	Garnetiferous Gneiss	Do. do.	
423	Gneiss	Do. do.	
424	Garnetiferous Gneiss	Do. do. ..	Somewhat schistose.
425	Do.	Do. do.	
426	Hornblendic Gneiss	Do. do.	
427	Gneiss	Do. do. ..	Garnetiferous.
		Do. do.	

428	Altered Gneiss	Do.	do. ..	Containing hydrous minerals.
429	Gneiss	Do.	do. ..	With biotite.
430	Garnetiferous Gneiss	Do.	do. ..	Syenitic in places.
431	Gneiss	Do.	do.	
432	Do.	Do.	do. ..	With garnets.
433	Granite	Do.	do. ..	Aplite.
434	Do.	Do.	do.	
435	Diorite	Do.	do.	
436	Dolerite	Do.	do.	
437	Do.	Do.	do. ..	With pyrrhotine.
438	Do.	Do.	do.	
439	Do.	Do.	do.	

SOUTH CANARA DISTRICT.

440	Clay	South Canara District.	
441	Do.	Do.	Micaceous and sandy.
442	Laterite	Do.	Clayey.
443	Do.	Do.	
444	Do.	Do.	
445	Conglomerate	Do.	
446	Do.	Do.	With jasper.
447	Sandstone	Kudre Mukh, South Canara District.	
448	Jaspery Quartzite	South Canara District.	
449	Green Quartzite	Do.	
450	Crystalline Limestone	North Canara District.	
451	Talcose Schist	South Canara District.	
452	Chlorite Schist	Do.	
453	Do.	Do.	
454	Hornblende Schist	Kudre Mukh, South Canara District.	With laminæ of quartz.
455	Mica Schist	Yelanir ghât, 2,000 ft. above do.	With garnets.
456	Do.	Do. do. ..	With garnets.

ROCKS OF SOUTHERN INDIA—*continued.*

No.	Name of specimen.	Locality.	Remarks.
		SOUTH CANARA DISTRICT—*continued.*	
457	Hornblendic Schist	South Canara District	With garnets.
458	Decomposing Mica Schist with Garnets.	Do.	The garnets have the mica mineral bent round them.
459	Schist	Do.	Decomposed.
460	Gneiss	Do.	
461	Hornblendic Schist	Kudre Mukh, South Canara District.	
462	Gneiss	South Canara District.	
463	Do.	Do.	
464	Green Gneiss ?	Near Mangalore.	
465	Gneiss	North Canara District.	
466	Do.	South Canara District.	
467	Do.	Do.	
468	Granite	Do.	
469	Do.	Do.	
470	Do.	Do.	
471	Very fine grained Granite	Do.	
472	Diorite	Do.	
473	Plagioclase Felspar	Do.	
		TRICHINOPOLY DISTRICT.	
474	Clay stone	Ootatoor, Trichinopoly District.	
475	Ferruginous ore	Do. do. ..	Filled with selenite ; Ootatoor clays.
476	Kaolin conglomerate	Trichinopoly District.	

477	Do.	Do.	
478	Do.	Do.	
479	Impure Kaolin	Do.	
480	Sandstone	Do.	
481	Brown Chert	Do.	
482	Agates	Do.	
483-94	Cherts	Do.	From the Trichinopoly cretaceous beds with opals, &c.
495	Calcareous grit	Do.	With mica.
496	Do. conglomerate	Do.	
497	Limestone	Do.	From Trichinopoly cretaceous beds.
498	Calcareous Sandstone	Do.	
499	Do.	Do.	
500	Dark-colored Limestone	Do.	
501	Limestone	Do.	
502	Gneiss	Trichinopoly, Trichinopoly District	Magnetic.
503	Do.	Do. do.	
504	Do.	Do. do.	Quartzo-felspathic (shaped specimen).
505	Vein Quartz	Do. do.	Amethystine.
		TANJORE DISTRICT.	
506	Sandstone	Tanjore District.	
507	Laterite	Vallam, Tanjore District.	
508	Limestone	Tanjore District.	Earthy.
509	Do.	Do. do.	More compact.
510	Do.	Do. do.	
511	Crystalline Limestone	Vallam, do.	
512	Micaceous Schist	Tanjore District.	
513	Quartz "Vallum stones"	Vallam, Tanjore District	From pebbles in the "grits" of Vallam.
		TINNEVELLY DISTRICT.	
514	Micaceous Schist	Tinnevelly District.	
515	Gneiss	Palamcottah, Tinnevelly District.	

ROCKS OF SOUTHERN INDIA—*continued.*

No.	Name of specimen.	Locality.	Remarks.
		TINNEVELLY DISTRICT—*continued.*	
516	Quartzo-felspathic	Palamcottah, Tinnevelly District.	
517	Gneiss	Do. do.	
518	Do.	Do. do. ..	Quartzo-felspathic.
519	Do.	Sayerpuram ? do. ..	Quartzo-felspathic, with garnets.
520	Do.	Palamcottah, do. ..	Do.
521	Do.	Do. do. ..	Schistose.
522	Syenitic Gneiss	Near Melapalaiyam, do. ..	Micaceous.
523	Granite	Palamcottah, do.	
524	Do.	Do. do. ..	Binary.
525	Kaolin	Tinnevelly District	Do.
526	Impure Kaolin and Laterite ..	Do.	
527	Do.	Do.	
528	Do.	Do.	
529	Do.	Do.	
530	Do.	Do.	
531	Do.	Do.	
532	Do.	Do.	
533	Quartz grains	Tinnevelly, Tinnevelly District ..	Cemented with calcareous deposits.
534	Breccia	Do. do. ..	Fine grained.
335	Red sand	Tinnevelly District.	
536	Quartzite	Do.	Altered into a light-colored heliotrope.
537	Fossil shell filled with chalcedony ..	Do.	
538	Chalcedony	Tinnevelly, Tinnevelly District ..	Found in laterite.
539	Chalcedony and Quartz	Tinnevelly District	
540	Flint	Do.	Said to be from the Tinnevelly District.

541	Agate	Tinnevelly, Tinnevelly District.	
542	Travertine	Tinnevelly District	Specimens from the Tinnevelly District.
543	Do.	Do.	
544	Do.	Do.	
545	Do.	Do.	
546	Do.	Do.	
547	Calc spar	Do.	
548	Fossil wood	Tinnevelly, Tinnevelly District.	
549	Dolerite	Tinnevelly District.	
		MADURA DISTRICT.	
550	Sandstone	Madura District	Calcareous.
551	Do.	Do.	
552	Friable sandstone	Do.	
553	Quartzite	Old Madura, Madura District ..	With laminæ of mica.
554	Do.	Madura District	With ferruginous laminæ.
555	Quartz rock	Allagarcoil, Madura District ..	Well laminated.
556	Flints	Madura District.	
557	Travertine	Dindigul, Madura District ..	With impressions of leaves, &c.
558	Crystalline Limestone	Pandalgoody, do.	
559	Do.	Do. do.	
560	Do.	Do. do.	
561	Do.	Do. do.	
562	Limestone	Pasumalai, do.	
563	Calcareous Limestone	Kottampatti, do.	
564	Kunkur	Pálmédu, do. ..	Travertine.
565	Shelly Limestone	Madura District.	
566	Limestone	Do. ..	Granular.
567	Do.	Do.	
568	Hornblende Schist	Sirumalai, Madura District.	
569	Do.	Virattupathu, do. ..	With garnet rock.

No.	Name of specimen.	Locality.	Remarks.
		MADURA DISTRICT—*continued.*	
570	Quartzose Gneiss	Pasumalai, Madura District.	
571	Gneiss	Anaímalai, do. ..	Felspar and quartz.
572	Quartzose Gneiss	Madura District. ..	With tremolite.
573	Do.	Pasumalai, Madura District ..	With laminæ of steatite.
574	Gneiss	Virattupathu, do. ..	Garnetiferous.
575	Do.	Madura District.	
576	Do.	Old Madura, Madura District ..	Coarsely laminated.
577	Do.	Viralimalai, do. ..	With cinnamon, garnet and coccolite.
578	Hornblendic Gneiss	Old Madura.	
579	Gneiss	Mélúr, do. ..	Quartzose garnetiferous.
580	Hornblendic Gneiss	Madura District.	
581	Gneiss	Do.	With pegmatite.
582	Hornblendic Gneiss	Sittampatti, Madura District ..	Porphyritic.
583	Gneiss	Old Madura, do. ..	Binary; of quartz and felspar.
584	Porphyritoid Gneiss	Madura District	Possibly a porphyritic diorite.
585	Hornblendic Gneiss	Do.	Laminated.
586	Gneiss	Sholavandán, Madura District.	
587	Syenitic Gneiss	Madura District.	
588	Gneiss	Do.	Fine grained quartz, mica, and felspar.
589	Garnet rock	Do.	Eklogite.
590	Granite	Pámban, Madura District	Binary, with crystals of hornblende.
591	Do.	Malakkal, do.	
592	Do.	Mélúr, do. ..	With garnet rock.
593	Do.	Madura, do.	
594	Do.	Palni hills, do.	

595	Do.	Madura District	In which white felspar (albite) largely predominates.
596	Graphic Granite	Madura, Madura District.	
597	Do.	Do. do.	
598	Do.	Madura District	Pegmatite, binary.
599	Granite	Madura, Madura District	Large crystals of red felspar, grey quartz, and white mica.
600	Do.	Old Madura, do.	
601	Epidote Granite	Madura, do.	
602	Syenitic Granite	Virattupathu, do. ..	Green stone ; porphyritic.
603	Granite	Madura District	Approaching a syenite.
604	Porphyritic Syenite	Do.	
605	Syenite	Madura, Madura District	Composed of hornblende and quartz with large crystals of felspar.
606	Syenite	Madura District	Porphyritic.
607	Granite	Maungoolam, Madura District ..	With a little epidote.
608	Schorl rock	Thuvarangoorichi, do.	
609	Actinolite rock	Virudapati, do.	
610	Syenite	Kottampatti, do. ..	Porphyritic.
611	Do.	Do. do. ..	Do.
612	Diorite	Madura District.	
613	Trap	Viralimalai, Madura District ..	An altering diorite.
614	Diorite	Pálmédu, do. ..	Amphybolite.
		TRAVANCORE.	
615	Marl (calcareous mud)	Cochin	The product of mud from Cochin, which was taken out by General Cullen, and exposed to the sun.
616	Iron ore	Travancore	Magnetic.
617	Resinite	Venkulli, Travancore	Lignite deposit.
618	Sandstone grit?	Cape Comorin do.	Coarse, in a calcareous matrix.

ROCKS OF SOUTHERN INDIA—*continued.*

No.	Name of specimen.	Locality.	Remarks.
		TRAVANCORE—*continued.*	
619	Sandstone grit?	Cape Comorin, Travancore	In a calcareous matrix.
620	Do.?	Do. do.	
621	Limestone breccia	Between Pálghat and Cochin, do.	
622	Limestone (kunkur)	Mountain cave above Courtallum, 3,000 ft.	Shelly, in a calcareous matrix.
623	Do.	Travancore.	
624	Crystalline Limestone	Do.	
625	Do.	Between Pálghat and Cochin.	
626	Do.	Travancore	Gneissoid.
627	Do.	Probably from the Pálghat Pass.	
628	Mica Schist	Travancore.	
629	Gneiss	Cape Comorin, Travancore	Quartzo-felspathic, with mica.
630	Do.	Do. do.	Do.
631	Do.	Cardamom hills, do.	Quartzo-felspathic.
632	Do.	Cape Comorin, do.	Do.
633	Do.	Cardamom hills, do.	Garnetiferous.
634	Do.	Do.	
635	Do.	Do.	
636	Do.	Do.	
637	Do.	Do.	
638	Do.	Do.	Garnetiferous.
639	Do.	Do.	Hornblende.
640	Do.	Do.	
641	Do.	South Travancore	Quartzo-felspathic with garnets.
642	Do.?	Cardamom hills	May be a vein granite.

643	Do.	Between Pálghat and Cochin ..	Syenitic.
644	Do.	Do.	
645	Do.	Travancore	Nearly all black mica (biotite).
646	Granite	Do.	
647	Do.	Cardamom hills.	
648	Do.	Travancore.	
649	Do.	Cardamom hills	Binary.
650	Red Granite	Travancore	With epidote.
651	Granite	Do.	With a string of epidote.
652	Do.	Puttikád.	
653	Do.	Travancore	
654	Pegmatite Granite	Do.	
655	Granite	Between Pálghat and Cochin ..	Weathered.
656	Do.	Cardamom hills	Do.
657	Diorite ?	Do.	With a patch of chlorite.
658	Do.	Do.	
659	Do.	Do.	
660	Dolerite	Between Pálghat and Cochin ..	Quartz, mica, and hornblende.
		MYSORE.	
661	Laterite	Bangalore, Mysore Province.	
662	Travertine	Cauvery, Bangalore Division, do.	
663	Stalactite (travertine)	Harangatta, Tungúr Bridge, do.	
664	Travertine	Cauvery, Bangalore Division, do.	
665	Kunkur	Bangalore, do.	
666	Calc spar	Mysore, do.	
667	Chert	Mysore Province.	
668	Do.	Do.	
669	Quartz rock	Do.	With tourmaline.
670	Hornstone (quartz)	Chittaldroog Division, Mysore Pro.	
671	Chert	Corhalli hills, do.	
672	Do.	Do. do.	

No.	Name of specimen.	Locality.	Remarks.
		MYSORE—*continued.*	
673	Quartzite	Mysore, Mysore Province.	
674	Ferruginous Quartzite	Do. do.	
675	Striped Quartzite	Bangalore, do. ..	With chlorite.
676	Quartzite	Mysore Province.	
677	Do.	North of Banavar, do. ..	Gneissic series.
678	Do.	Mysore Province.	
679	Contorted Quartzite	Do.	
680	Compact do.	Do.	
681	Quartzite	Mysore, do.	
682	Talcose Schist	Chittaldroog, do.	
683	Do.	Mysore Province.	
684	Chloritic Schist	3 miles south of Mysore, do.	
685	Talcose Schist	2 miles from Yeshwantpúr, do.	
686	Do.	Devipálya, do. ..	Weathered.
687	Mica Schist	Mysore Province	With garnets. Described in "Notes on some auriferous tracts of Mysore Province, by G. Attwood, Esq., with appendix, by Professor F. G. Bonney, Quarterly Journal of Geological Society, p. 636.
688	Decomposed Schist	Do.	
689	Do.	Yeshwantpúr.	
690	Chloritic Schist	Segar Midan, near Bangalore.	
691	Actinolite rock	Kolar District, Mysore Province.	
692	Decomposed Schist	Mysore Province	Approaching a steatite.
693	Chloritic Schist	Do.	Paper weight cut form.
694	Gneiss	Goribidnúr, Mysore Province.	

695	Do.	Mysore Province.	
696	Quartzo-felspathic Gneiss	Do.	With tourmaline.
697	Quartzose Gneiss	Goribidnúr, Mysore Province ..	Micaceous.
698	Gneiss	Mysore Province	Mica superabundant.
699	Do.	Do.	Micaceous, schistose.
700	Do.	Goribidnúr, Mysore Province.	
701	Quartzose Gneiss	Lal Bagh, Bangalore, do.	
702	Do.	Goribidnúr, do. ..	Felspathic.
703	Gneiss	East side of Lal Bagh, do.	
704	Schorlaceous Gneiss	Mysore Province.	
705	Gneiss	Do.	Hornblendic.
706	Do.	Do.	With biotite.
707	Do.	Nagar, Mysore Province	Hornblendic.
708	Do.	Mysore Province	Do.
709	Do.	Lal Bagh, Bangalore, Mysore Pro.	
710	Hornblendic Gneiss	Mysore Province.	
711	Gneiss	Near Seringapatam	Composed of white quartz and minute portions of black mica.
712	Do.	Gutapalli, Mysore Province.	
713	Epidote rock	South of Bettarayan Bondu, Kolar Gold Field, Mysore Province.	
714	Do.	Kempambudi, do.	
715	Albite felspar from grey gneiss ..	Near Bangalore, do.	
716	Weathered gneiss	Bangalore, do. ..	Water-worn fragments.
717	Decomposed gneiss (kaolin) ..	Do. do.	
718	Do.	Yeshwantpúr, do.	
719	Do.	Bangalore, do.	
720	Do. (kaolin) ..	Yeshwantpúr, do.	
721	Do. (do.) ..	Bangalore, do.	
722	Granite	Mysore Province.	
723	Do.	Seringapatam, do.	
724	Do.	Mysore Province.	

No.	Name of specimen.	Locality.	Remarks.
		MYSORE—*continued.*	
725	Granite	Nagar, Mysore Province.	Binary. "Graphic."
726	Do.	5 miles west of Bangalore, do.	
727	Do.	North of Lal Bagh, do. ..	Binary.
728	Do.	Kempakal river, do.	
729	Do.	Mysore, do. ..	Pegmatite.
730	Very felsitic Granite	Near Hospettah, do.	
731	Schorlaceous Granite	Nagar, do.	
732	Granite	Mysore Province	Porphyritic.
733	Syenite	Hunsúr, do.	
734	Do.	3 miles south of Goribidnúr, Mysore Province.	
735	Granite	Hessargatta hills, do.	
736	Porphyritic Felsite	Seringapatam, do.	
737	Do.	Do. do.	
738	Felsite	Do. do.	
739	Do.	Mysore Province.	With pink felspar.
740	Vein Quartz	5 miles west of Bangalore, do.	
741	Do.	Mysore, do. ..	Crystallized.
742	Do.	1 mile west of Bangalore, do.	
743	Do.	Near Bangalore, do.	
744	Diorite	Mysore Province.	
745	Dolerite	Do.	
746	Trap	Goribidnúr, do. ..	Basaltic.
747	Porphyritic Dolerite	Seringapatam, do.	
748	Decomposing trap	Mysore Province.	
749	Fine grained Basalt	Do.	

750	Gypsum	Bangalore, Mysore Province.	
751	Corundum	Mysore, do.	
752	Do.	Hills near Bangalore, do.	
753	Steatite	South of Mysore, do.	
754	Do.	Bangalore, do.	
755	Do. (soapstone)	Do. do.	
		Nizam's Dominions.	
756	Laterite	Bidar, Nizam's Dominions.	
757	Kaolin clay	Nizam's Dominions.	
758	Jaspery clay	Hyderabad, Nizam's Dominions ..	Decomposed.
759	Felspathic clay	Balaghat, do. ..	Do. rock.
760	Subærial agglomerate of pisolitic iron.	Autapuram, do.	
761	Sandy shaly	Dantampalle, do. ..	Carbonaceous, micaceous.
762	Ferruginous clay	Nizam's Dominions	Concentric nodular structure.
763	Sandstone	Do.	
764	Rough sandstone	Do.	Clayey, and cretaceous.
765	Sandstone	Gawal range, Nizam's Dominions. ..	A weathered quartzite.
766	Do.	Nizam's Dominions	Do.
767	Do.	Gawal range, Nizam's Dominions ..	Do.
768	Do.	Ganpuram, right bank of Godavari, Nizam's Dominions.	Do. clayey.
769	Siliceous rock	Nirmal Ghát, do. ..	Inter-trappean; fossiliferous.
770	Do.	Gawal range, do. ..	Do.
771	Quartzite Breccia	Shernavala Trigonometrical Station, Khamamet Taluk, Nizam's Dominions.	
772	Jasper	Hyderabad, do. ..	Indurated quartzite.
773	Do.	Golkunda, valley of Berar, do. ..	Do.
774	Do. pebble	Nizam's Dominions	Do.
775	Flint	Chalmera, Nizam's Dominions ..	

No.	Name of specimen.	Locality.	Remarks.
		Nizam's Dominions—*continued.*	
776	Chalcedonic Jasper	Golkunda, Nizam's Dominions.	
777	Do.	Do. do.	
778	Agate	Secunderabad, do.	
779	Jasper	Wún, do. ..	With exterior chert.
780	Chalcedony	Golkunda, valley of Berar, do.	
781	Do. and Jasper	Berar, do.	
782	Do.	Secunderabad, do.	
783	Do. and Agate	Do. do.	
784	Do.	Do. do.	
785	Quartz and Chalcedony	Do. do.	
786	Limestone	Shorapúr country, do.	
787	Do.	Secunderabad, do. ..	With dendritic markings.
788	Calc spar	Nizam's Dominions.	
789	Do.	Do.	
790	Gypsum	Do.	
791	Talcose Schist	Erandi, right bank of Godavari, Nizam's Dominions.	
792	Contorted mica schist	Near Maddiri taluk, do.	
793	Gneiss	Korikonda, east of Suriapeta, Nizam's Dominions.	Micaceous.
794	Do.	Wudagúndram, Godavari, do.	
795	Do.	Lingampalle, do.	
796	Do.	Nizam's Dominions ..	Foliated.
797	Do.	Cantonment, Secunderabad, do.	

798	Do.	Nizam's Dominions	With hornblendic.
799	Do.	Do.	With indistinct foliation.
800	Do.	Do.	With garnets.
801	Do.	Do.	With labrodite ?
802	Do.	Do.	Garnetiferous.
803	Do.	Singareni Coal Field, Nizam's Dominions.	With strings of magnetic iron ore.
804	Magnetite from above	Do. do.	
805	Gneiss	From European butt, Secunderabad, Nizam's Dominions.	
806	Granite	Nizam's Dominions	Weathered.
807	Do.	Kallakote, Nizam's Dominions.	
808	Red Granite	Nizam's Dominions.	
809	Graphic Granite	Yedali, Shorapúr taluk, do.	
810	Do.	Do. do.	
811	Granite	Near Secunderabad, do.	
812	Do.	Dumgúam-Kattagúdam, do.	
813	Pistacite rock	Amblanúr, do.	
814	Syenite	Secunderabad, do.	
815	Quartz	Do. do. ..	Probably from a vein.
816	Vein Quartz	Do. do.	
817	Trap	Hyderabad, do. ..	With olivine.
818	Deccan trap	Nizam's Dominions.	
819	Contact of porphyritic greenstone with granite gneiss.	South-east of Vizianagrum hill, Wardáná Taluk, Nizam's Dominions.	
820	Deccan trap	Nizam's Dominions.	
821	Dolerite	Do.	
822	Basaltic trap	Udgír, Nizam's Dominions	Very compact, with olivine.
823	Dolerite	Secunderabad, do.	Porphyritic. The crystals are plagioclase felspar.
824	Deccan trap with zeolites	Nizam's Dominions	Stilbite.
825	Zeolite	Do,	

ROCKS OF SOUTHERN INDIA—*continued.*

No.	Name of specimen.	Locality.	Remarks.
		NIZAM'S DOMINIONS—*continued.*	
826	Deccan trap	Secunderabad, Nizam's Dominions..	Amygdaloidal with chalcedony and zeolite.
827	Do.	Do. do. ..	With green jaspery quartz and chalcedony.
828	Drusy nodule from Deccan trap ..	Do. do. ..	Calcite crystals showing faces $\frac{1}{2}$ R.
829	Chalcedony and quartz with base of striped agate from Deccan trap.	Do. do. ..	The trap contains amygdaloids of viridite.

V.—SPECIMENS OF THE QUARTZ OF SOUTHERN INDIA.

No.	Name of specimen.	Locality.	Remarks.
1	Quartz from the Alpha Gold Mining Company.	South Wynaad.	
2	Stones from New Reef	Near Prince of Wales' Reef.	
3	Do.	Do.	
4	Stones from Karambaut Reef ..	Kaleika.	
5	Quartz with copper pyrites ..	Sígúr Ghât	Chalcopyrites altered at the surface into indigo copper (covellite).
6	"Casing" in which gold is to be seen.	....	
7	Do. do. ..	....	
8	Quartz from Alpha Gold Mining Company.	South Wynaad.	
9	Quartz with pyrites	Goobnook.	
10	Do. No. 4 section ..	Skull Reef.	
11	Do. do. ..	Bear Reef.	
12	Do. do. ..	Adaline estate.	
13	....	Wright's level.	
14	Quartz	Davison's Reef, Elizabeth's estate.	
15	Do.	New Reef, Wither's estate.	
16	Do.	Waterfall Reef.	
17	Do.	Ettakul Reef, Wynaad.	
18	Quartz from Alpha Gold Mining Company.	South Wynaad.	
19	Quartz	Wynaad.	
20	Do.	Rosedell Reef.	
21	Do.	Wither's Reef.	
22	Quartz with pyrites	Cawrn Reef.	

SPECIMENS OF THE QUARTZ OF SOUTHERN INDIA—*continued.*

No.	Name of specimen.	Locality.	Remarks.
23	Quartz	Reef behind magazine.	
24	Do.	Wynaad.	
25	Do.	South Wynaad.	
26	Do.	Prince of Wales' Reef.	
27	Do.	Cavern Reef.	
28	Do.	....	
29	Do.	Wynaad	All the specimens show visible gold.
30	Rock crystal	Guntúr.	
31	Quartz	Mysore Town.	
32	Do.	Do.	
33	Milk Quartz	Bangalore.	
34	Pure white Quartz	Arcot.	
35	Quartz	Masulipatam.	
36	Vein Quartz	Salem District.	
37	Common Quartz	Arcot.	
38	Quartz	Near Bangalore.	
39	Vein Quartz	Yellavenkur Taluk.	
40	Quartz and Chlorite	North-West Mysore	From auriferous reef, Honali Gold Field.
41	Quartz	Wynaad.	
42	Do.	Do.	
43	Do.	Do.	
44	Do.	Do.	

VI.—ECONOMIC MINERALS USED IN THE MANUFACTURE OF GLASS, POTTERY, EARTHENWARE, &c.

No.	Name of specimen.	Locality.	Remarks.
1	Kaolin or porcelain earth	Bangalore.	
2	White Kaolin	Chicacole.	
3	Kaolin	Bangalore.	
4	Fine white Kaolin	Dindigul hill.	
5	Talcose Kaolin	Hill near Bimlipatam.	
6	Magnesium Kaolin	Near Vellore.	
7	Kaolin	Near Chittoor.	
8	White Kaolin	Do.	
9	Kaolin	Salem.	
10	Red Kaolin	Hills near Salem.	
11	Pink Kaolin	Nílgiris.	
12	Cream-colored Kaolin	Do.	
13	Kaolin	Cuddapah.	
14	Magnesium Kaolin	Chingleput.	
15	Blue ball clay	Near Cuddalore.	
16	Grey ball clay	Poonamallee.	
17	Clay	Cuddapah.	
18	Tough yellow clay	Chingleput.	
19	Yellow magnesium clay	Red Hills.	
20	Lavender-colored clay	Bellary.	
21	Puce-colored clay	Cuddapah.	
22	Red magnesium clay	Red Hills.	
23	Light red marl	Hills near Salem.	
24	Yellow clay	Do.	

ECONOMIC MINERALS USED IN THE MANUFACTURE OF GLASS, POTTERY, EARTHENWARE, &c.—*continued.*

No.	Name of specimen.	Locality.	Remarks.
25	Yellow magnesium clay	Poonamallee.	
26	Dark brown clay	Madura.	
27	Clay	Sríperumbudur.	
28	Tough brown clay	Madras.	
29	Grey clay	Salem.	
30	Dark brown clay	Madras.	
31	....	Salem.	
32	Black bituminous clay	Rajah's Choultry, Madras.	
33	Black clay	Nílgiris	Containing black oxide of manganese.
34	Black tank clay	Chingleput.	
35	Black clay	Hills near Salem.	
36	Dark red marl	Nuthum hill near Chingleput.	
37	Indurated lithomarge	Near Cuddalore.	
38	Reniform or kidney-shaped clay ..	Red Hills, Madras	Iron stone.
39	Potstone or lapis ollaris	Cuddapah	With a pot cut out of potstone.
40	Grey soapstone or steatite	Chittoor.	
41	Potstone or lapis ollaris	Cuddapah.	
42	Soapstone	Salem.	
43	Kunkur	Tirupatúr, Salem.	
44	Magnesite	Nungengoodi	A pure carbonate of magnesia.
45	Mica	Salem.	
46	Fibrous gypsum	Ennore, Madras, and Kurnool.	
47	Talc	Vizagapatam.	
48	....	....	
49	Polishing slate	Ráyalcheru.	
50	Calcareous spar	Ceded Districts.	
51	Grey and yellow marble	Near Cuddapah.	

52	Shells	Madras Beach.	
53	Hydrous Magnesium silicate or Meerschaum clay.	Nílgiris.	
54	Grey and yellow marble	Near Cuddapah.	
55	Satin spar	Ráyalcheru.	
56	Flinty slate	Bed of the Kistna below Raichur.	
57	Flint	Vizianagrum.	
58	White sand	Near Madras.	
59	Rock crystal	Vallam, Tanjore.	
60	Common Quartz	Near Chingleput hills.	
61	Amethyst	Near Hyderabad.	
62	Mica from Granite vein	Virattupathu.	
63	Sulphate of Baryta or heavy spar ..	Kurnool.	
64	Corundum	Gopichettipálayam.	
65	Cleavelandite	Peddiur and Coimbatore.	
66	Crome iron ore	Porto Novo.	
67	Galena or Lead glance	Vicinity of Kurnool.	
68	Pink and white Felspar	Near Arcot.	
69	White felspar	Bimlipatam.	
70	Adularia	Hills near Chingleput.	
71	Carbonate of Soda (soudumun) ..	.....	A salt from which glass bangles are made.
72	Mica	Vizagapatam District.	
73	Plumbago	Golgonda hills	Graphite.
74	Corundum	Hills north-west of Rajahmundry.	
75	Magnesite	Salem District.	
76	Specimens of Kaolin	Pálghat hills.	
77	Felspar	Little Mount	From granite.
78	Steatite	Goliah in Goomsur	Rubbed specimen.
79	Impure Kaolin	Rámandrug	Decomposed gneiss.
80	Lead ore	Nullamallas	Sulphuret of lead.
81	Plumbago	Bezváda.	

ECONOMIC MINERALS USED IN THE MANUFACTURE OF GLASS, POTTERY, EARTHENWARE, &c.—*continued.*

No.	Name of specimen.	Locality.	Remarks.
82	Full mould of "bangle glass" ..	Bellary District	From which the glass bangles worn by natives are manufactured.
83	Corundum	Do.	
84	Felspar	Madura District.	
85	Mica	Do.	
86	Full mould of "bangle glass" ..	....	From which the glass bangles worn by natives are manufactured.
87	Copper ore	Ghani, near Kurnool	Traces in a clay slate.
88	Rich green carbonate of Copper ..	Nellore District	Containing 75 per cent. of metallic copper.
89	Heavy spar	Kurnool	As guage of lead ore.
90	Bangle glass	....	
91	Copper ore	Nellore District	Green carbonate and grey copper ore.
92	Felspar	Near Bellary	From granite.
93	Potstone	Chittoor	Worked specimen.
94	Fibrous Gypsum	Ráyalcheru.	
95	Carbonate of Iron	Masulipatam	Siderite.
96	Kunkur	Tirupatúr, Salem District.	
97	Bangle glass	Cuddapah District.	
98	Heavy spar	Near Yadaki	Sulphate of baryta.
99	Do.	....	Sulphate of baryta in which the lead ore occurs.
100	Barite	Cuddapah District	Heavy spar.
101	Potter's clay	Nungengudi	Considered by the natives holy after it is consecrated by the priest in the pagoda, and eaten both by males and females every morning.
102	Steatite rock	West of Baituncheru	Weathered.
103	Corundum	Kódúr.	
104	Do.	Guntúr.	

105	Mica	Hyderabad.	
106	Red ochre	Red Hills	Ochre.
107	Gun flints	Madura District.	
108	Sulphate of magnesia	Salem	Magnesite obtained from the hills known as Chalk Hills.
109	Specimens of Salem baltimorite ..	Salem District	A fibrous serpentine often mistaken for asbestos.
110	Basalt	....	Used by saddlers for sharpening their tools.
111	Gypsum	Run of Kutch.	
112	Baltimorite	Hyderabad	Fibrous serpentine often mistaken for asbestos.

VII.—MISCELLANEOUS COLLECTION OF ROCKS.

No.	Name of specimen.	Locality.	Remarks.
1	Silicified wood	Chingleput.	
2	Fossil woods		
3	Do.		
4	Black limestone	Cuddapah District.	
5	Pointed sandstone	Godavari valley.	
6	....	Ganjam.	
7	Quartz and calcite	Hyderabad.	
8	Calc spar	Guntur.	
9	Quartz	Hyderabad.	
10	Coarse conglomerate	Naggery.	
11	Chest and chalcedony	Madura.	
12	Wood opal	Do.	
13	....	Sagur.	
14	Chloritic schist	Dumbal hills, Darwar	Slickensides on quartz; much contorted; gneissic lines.
15	Sandstone	Cuddapah District	Ripple marks; from gorge at Chintapenta 16 miles from Cuddapah Town, in the Vaimpalle road.
16	Do.	Do.	Dendritic markings (pyrolusite).
17	Do.	Vempalli, Cuddapah District ..	Concentric iron stains and dendritic markings.
18	Red wood opal	Madura.	
19	Marble	Jubbulpore	From marble rocks.
20	Sandstone	Cuddapah	Dendritic markings (pyrolusite).
21	Trichy marble		
22	Rounded marbles	Guntúr.	

VIII.—MARBLES, SERPENTINE AND LITHOGRAPHIC STONES.

No.	Name of specimen.	Locality.	Remarks.
1	Granular Limestone marble ..	Tinnevelly	Polished.
2	Slab of marble	Ambasamudram.	
3	Lithographic stone	Kurnool.	
4	Do.	Do.	
5	Lithographic marble stone	Juggiapetta.	
6	German lithographic marble stone..		
7	Lithographic stone	Europe.	
8	Serpentine	Bellary.	
9	Do.	Do.	
10	Sienitic Granite	Madura.	
11	Shell marble	Pondicherry.	

34339

IX.—METEORITES.[1]

"Meteorites may be conveniently arranged in three classes, which pass more or less gradually into each other: the first includes all those which consist mainly of iron, and have, therefore, been called by Maskelyne aero-siderites (*aer* air, and *sideros* iron), or more shortly *siderites;* the second is formed by those which are composed chiefly of iron and stone, both in large proportion, and are called aero-siderolites, or, shortly, *siderolites;* while those of the third class, being almost wholly of stone, are called aerolites (*aer* air, and *lithos* stone)."

List of the Meteorites of which the fall in S. India has been recorded.[2]

Place of fall.	Date of fall.	Weight in grams.
I. Siderites or Meteoric Irons.		
Nedagolla, Mirangi, Vizagapatam.	Jan. 23, 1870 ..	4,379·7
II. Aerolites or Meteoric Stones.		
Gurramkonda, near Punganur ..	Fell in 1814 ..	9·8
Nellore (Yatoor)	Jan. 23, 1852 ..	11,287
Parnallee	Feb. 28, 1857 ..	61,361·0
Gopalpur	May 23, 1865 ..	147·0
Muddur, Mysore	Sept. 21, 1865 ..	407·3
Nammianthal, South Arcot ..	Jan. 27, 1886 ..	1,623·0

A letter from the Rev. H. S. Taylor describes the circumstances of the fall of the Parnallee aerolite in the following words:—"Near the village of Parnallee in this taluk two meteoric stones had fallen. I have been to the ground, and seen the places where they fell, and the exact impression made in the earth where they lay. As no rain has fallen since, I was able to see that there was no mistake about it. The noise made as they came through the air made a deep impression on the minds of the people in that region, and was heard, I find from reports, along the sea-shore up to Teruchooly. They fell about three miles apart from each other. The smaller one weighs about 37 pounds, and

[1] Introduction to the Study of Meteorites. British Museum, 1888.

[2] The fall of the following meteorites has also been recorded, but I cannot ascertain whether they were siderites or aerolites:—
Udipi, S. Canara, April 1866. 3,306 grms.
Judesegeri, Kadaba Taluk, Mysore, Feb. 16, 1876. 135·1 grms.

sunk in the earth, when it fell two feet and eight inches. The larger one is from three to four times as large, and sunk in the earth two feet and four inches. It struck the earth flatwise. The smaller one fell about perpendicularly. The larger fell (coming from the north a little to the west) making an angle, with a perpendicular line, of about fifteen degrees. Persons were standing near each place where they fell. Many worshipped them. The villagers gave them up to me, on condition that I should inform you, and save them from trouble made (or rather which they feared some officials might make).

1. This is one of two which fell on Saturday, the 28th of February 1857, at about noon, a *little* south-east of the village of Parnallee, Latitude North, according to the Government map, 9° 14′, Longitude, 78° 21′ east.

2. The largest one fell a few seconds before the smaller one, and from two to three miles north of it. As was manifest from the hole it made in the ground when it fell, it came from a direction some ten degrees west of north, making an angle of about 15 or 20 degrees with a line perpendicular to the earth's surface. It struck the earth (or at least lay in the bottom of the hole made by it) flatwise, on the side that is most convex. The most round or convex side of the smaller stone also was downward, this being the position they would naturally assume as they passed with great velocity through the resisting atmosphere, an idea which did not occur to me *till* now. I had before simply noted the fact. The larger stone sank into the earth when it fell, two feet and five inches, in a perpendicular direction. The smaller one two feet and eight inches. The smaller one fell also, about perpendicularly. The smaller does not appear in any respect like a fragment of the larger one. The specific gravity of the smaller one, when it fell was about 3·3, water being the standard of unity. I observed that the specific gravity was increased after exposure to a shower, as that of the smaller one was. I did not try that of the larger. The crack on the convex side of the larger one I did not perceive at all till it had been wet, and then, at first, it was but just perceptible. Afterwards it gradually opened. I suppose, owing to the oxidation of the native iron it contains, perhaps, however to other causes. The stones had not been wet till they came into my hands, April 21st. They, each of them, fell in cultivated fields, one of which had been harvested. The stone in the other was *still standing*.

3. The *noise* seems to have been terrific to the natives, causing those near to crouch from fear. It came like two claps of thunder, as they fell one after the other, and continuing for some time, but gradually growing less loud. As they fell through the whole depth of our atmosphere, this would naturally be the case. The noise appears to have been heard at Tuticorin, forty miles distant. At this place, sixteen miles north, it excited considerable interest among those abroad at the time. The noise must have been great, occasioned by their great velocity. Taking their specific gravity into the account, say 3·3, their size being about that of large cannon balls, some allowance also being made for their irregular shape, from the depth they penetrated the soil, which was of about common hardness, those who have observed the power of projectiles in such cases will be able to calculate, approximately, what that velocity was.

4. Of the excitement among the natives, I suppose, I need not speak. I visited the place, because of the rumours that were flying abroad, making it evident to my mind that something peculiar had there transpired. First, I saw the holes from which, in the cultivated fields, they had been freshly taken, no rain having subsequently fallen, and saw at the bottom the *hardly-compressed* and exact impression left by them as they were taken up, and then as I saw the stones, I knew instantly that they were the identical ones which had been taken from those places. As I was more or less known in that region, and there is no gentleman whatever any where near, the rural people, utterly ignorant of the cause, came in great numbers to state the facts, and ask some explanation. Some of them supposed they were gods that had fallen; some that they had been shot from cannon on ships at Tuticorin; and some that a brahmin had brought them from the sea by his muntrums: some rejected all these theories, but no one could tell or feel satisfied as to how these things could be. By simply striking my staff through the air, I could explain to them the noise; and by tying a stone to a string and swinging it I could make them understand the centrifugal and centripetal forces, and how that, from some disturbance in these forces, stones moving about some centre like the moon about the earth might fall. The explanations gave them relief. They put confidence in me, and gave me the stones, at my request, that I might save them from the trouble of any official investigation, and put them into some museum or scientific institution.

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